Philippine Normal University

The National Center for Teacher Education

Institute of Teaching and Learning

MY PERSONAL GROWTH AND PROFESSIONAL DEVELOPMENT PORTFOLIO
PRACTICE TEACHING 2

Submitted by:

Joanabelle C. Zita

IV-18 Bachelor in Mathematics Education

A.Y. 2017-2018

TABLE OF CONTENTS

Introduction

After ten terms of academic coursework and one term of on-campus practice teaching, I am prepared to have real-life experiences in teaching and enter the teaching venture. Teaching and learning theories are continuously applied in the actual classroom setting. In every experience that I have in teaching, there is a realization that I got and based on those realizations, a stand will came up which it will be remembered as I go through the teaching profession.

This portfolio contains my experiences and realizations in teaching from the Philippines to Indonesia, as well as my plans in my teaching venture.

The first part is my curriculum vitae wherein this sums up my background as a student.

The second part is the log of activities wherein my significant experiences were listed and categorized according to the seven domains of the Philippine Professional Standards for Teachers (PPST).

The third part is my reflections in each domain of the PPST. This includes the strands stated in each domain, my reflection based on my experiences related on the given domain and the evidences of my experiences, including the practice teaching forms that every practice teacher must accomplish before and on the duration of our on-campus practice teaching. The practice teaching forms includes our application, perceptions and philosophies, professional readings, reflective journals, observation guide and case study.

Lastly, my overall reflection was included based on my reflections on the seven domains, as well as my philosophy in teaching and learning. This sums up my experiences in my off-campus practice teaching.

Mathography

On the 31st of July 1997, Joanabelle Cayaban Zita was born in Manila. She is the youngest among the three children of a retired seafarer and a housewife. She grew up and is currently living in a suburban area of San Mateo, Rizal.

She pursued her early and basic education at Nuestra Señora de Aranzazu Parochial School in Rizal while she is pursuing her Bachelor's degree in Mathematics Education at Philippine Normal University. Being a diligent and passionate student, Joanabelle become a consistent top achiever. She is a scholar from high school to college. In her years as a student, she became a tutor in various levels, a research presenter in different events, a volunteer in community extensions and participant in a variety of seminars, forums and talks.

Aside from her passion in studying, she is also an active church server, a member of the Ministry of Lectors at San Jose de Ampid Parish.

Her personal interests include mathematics, mathematics education, music, travel, food and adventure. In the field of education, her interests include instructional materials development, assessment and evaluation.

JOANABELLE CAYABAN ZITA

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San Mateo Rizal

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OBJECTIVE

To obtain a teaching position that will utilize my skills in content & pedagogical knowledge through teaching junior high school students to make them more mathematically competent and grow professionally as a mathematics teacher

PERSONAL INFORMATION

Full Name:	Joanabelle Cayaban Zita
Date of Birth:	July 31, 1997
Gender:	Female
Nationality:	Filipino
Languages spoken:	Filipino, American English
Marital Status:	Single
Religion:	Roman Catholic
Skills:	Speak in Mandarin & Bahasa Indonesia, sing, play musical instruments (piano, flute, guitar and violin), write flash fiction stories, formulate math problems

EDUCATIONAL BACKGROUND

Tertiary	Philippine Normal University Taft Ave., cor. Ayala Blvd., Manila Bachelor in Mathematics Education with certificate in Teaching Junior Secondary Education 2014-2018
Secondary	Nuestra Señora de Aranzazu Parochial School Gen. Luna St., Guitnangbayan I San Mateo, Rizal *First Honorable Mention* 2010-2014
Elementary	Nuestra Señora de Aranzazu Parochial School Gen. Luna St., Guitnangbayan I San Mateo, Rizal 2004-2010

TEACHING EXPERIENCES

SEA Teachers Project (Pre-Service Student Teacher Exchange in Southeast Asia)

Southeast Asian Ministers of Education Organization (SEAMEO)

January-February 2018

Universitas Pendidikan Indonesia

Bandung, Indonesia

On-Campus Teaching Practicum

October- December 2017

Philippine Normal University Institute of Teaching and Learning

Manila

OTHER EXPERIENCES

2nd DLSAU Education Research Congress

Presenter

National Research Council of the Philippines

November 25, 2017

De La Salle Araneta University

MATHTED's 11th Biennial International Conference in Mathematics Education

Presenter and Member of the Working Committee

Philippine Council of Mathematics Teacher Educators (MATHTED), Inc.

De La Salle University- Dasmariñas, Cavite

SCHOLARHIPS RECEIVED

Top 20 Philippine Normal University Admission Test (PNUAT) Scholarship

2014-2018

PNU Entrance Scholarship

2014-2018

Educational Service Contracting (ESC) Scheme *under*

Government Assistance of Teachers and Students in Private Education Program

2010-2014

SEMINARS/TRAININGS ATTENDED

2017 International Pre-service Teachers Convention and Competitions (iPreSeT 2017)

PNU Institute of Teaching and Learning

December 19-22, 2017

Teachers' Camp, Baguio City

Instructional Leadership: A Journey from the Classroom to the Schools Division Office

PNU College of Graduate Studies and Teacher Education Research

December 16, 2017

Philippine Normal University

2nd DLSAU Education Research Congress

National Research Council of the Philippines

November 25, 2017

De La Salle Araneta University

MATHTED's 11th Biennial International Conference in Mathematics Education

Philippine Council of Mathematics Teacher Educators (MATHTED), Inc.

De La Salle University- Dasmariñas, Cavite

Sexual Orientation, Gender Identification and Expression Workshop

September 6, 2017

Philippine Normal University

#LIFEHACKS: Unlocking the Secrets Towards a Positive Life

September 6, 2017

Philippine Normal University

Recognizing and Addressing Diversity: Teachers in the Classroom

September 6, 2017

Philippine Normal University

STeM Talk of the PNU-DOST Scholars' Association

PNU-DOST Scholars' Association

August 12, 2017

Philippine Normal University

Second Annual De La Salle University Undergraduate Philosophy Conference 2017

Samahan ng mga Lasalyanong Pilosopo

August 5, 2017

De La Salle University-Manila

Tara! Usapang Graduate School Tayo (A Wellness Focus Group Discussion)

College of Graduate Studies and Teacher Education Research

March 25, 2017

Philippine Normal University

Lecture Forum on Innovative Thinking and Innovations in Science and Mathematics Education

Faculty of Science, Technology and Mathematics

October 19, 2016

Philippine Normal University

Sakamoto Math Seminar-Workshop

The PNU Math Club

September 28, 2016

Philippine Normal University

Research Forum and Lecture Series for National Science and Technology Week 2016

Faculty of Science, Technology and Mathematics

July 29, 2016

Philippine Normal University

Time and Energy Management Seminar

Every Nation Campus PNU

January 27, 2016

Philippine Normal University

PASSCODE: 3P Lecture Series Panonood

PNU Speech and Theater Arts Guild in Education

December 5, 2015

Philippine Normal University

Basic Orientation Seminar-Workshop on Debate

PNU Debate Society

November 19, 2014

Philippine Normal University

Gender Sensitivity Training for First Year Students

University Gender and Development Office

October 22, 2014

Philippine Normal University

Financial Empowerment Course for the Youth

PNU Social Science Club

July 30, 2014

Philippine Normal University

AWARDS/HONORS RECEIVED

Undergraduate

iPreSeT 2017 GIST Competition

2nd Place

December 21, 2017

Baguio Teachers' Camp, Baguio City

iPreSeT 2017 Research Presenter Competition

Participant

December 21, 2017

Baguio Teachers' Camp, Baguio City

Search for the Math Wizard 2017

Participant

January 26, 2017

Philippine Normal University

30th Annual STAT-IS-EEKS, A Nationwide Inter-University Quiz Show for Non-Statistics Majors

Participant

October 1, 2016

University of the Philippines-Diliman, Quezon City

Faculty of Science, Technology and Mathematics (FSTeM) Laurels

Fifth Highest Overall General Weighted Average

GWA: 91.50

March 18, 2016

Philippine Normal University

Secondary Education

Consistent Honor Student

2010-2014

Nuestra Señora de Aranzazu Parochial School

Best in Christian Living Education

2010-2014

Nuestra Señora de Aranzazu Parochial School

Best in Filipino

2012-2014

Nuestra Señora de Aranzazu Parochial School

Elementary Education

HEKASI Quiz Bee- *1st Place*

October 7, 2007

Nuestra Señora de Aranzazu Parochial School

RESEARCHES CONDUCTED

Isang Pag-aaral ng mga Aralin sa General Mathematics kung saan Nahihirapang Matutunan ng mga Mag-aaral sa ika-11 na Baitang- September 2017

Philippine Normal University, Manila

Development and Validation of Computer-Assisted Instructional Material on Triangle Similarities- June 2017

Philippine Normal University, Manila

The Effectiveness of the Study Habits Program to the IPBA players of Nuestra Señora de Aranzazu Parochial School- February 2014

Nuestra Señora de Aranzazu Parochial School

The Relevance of Implementing Science Curriculum to the High School Honor Sections of Nuestra Señora de Aranzazu Parochial School San Mateo, Rizal

February 2013

Nuestra Señora de Aranzazu Parochial School

MEMBERSHIP IN ORGANIZATION

The PNU Math Club (PNU Manila)-Member	2015-present
PNU Debate Society (PNU Manila)-Auxiliary Member	2015
PNU Chorale (PNU Manila) - Member	2014
Aranzes Journal (NSDAPS) – Sports Editor	2013-2014
Aranzes Journal (NSDAPS) - Contributor	2012-2014
Theater Club (NSDAPS) - Member	2012-2014
Students' Mission in Lay Evangelization (SMILE) Club (NSDAPS) - Member	2011-2013
Young Ones for Unity (NSDAPS) - Member	2011-2012
Math Club (NSDAPS) - Member	2010-2014
Aranzan Choir (NSDAPS) - Member	2010-2014

Book Club (NSDAPS) - Member	2009-2010
Science Club (NSDAPS) - Member	2008-2009
Arts Club (NSDAPS) - Member	2007-2008

Log of Activities

Based on Practice Teaching Form 8- Journal of Experiences

Week 1 January 22-26, 2018

Significant Experience(s)	Learning(s)/Insight(s) Gained
January 23 The opening ceremony was happened wherein I met my co-participants for the SEA Teachers program, as well as some school officials of Universitas Pendidikan Indonesia (UPI) and participating schools in Bandung. *Domain 6, Domain 7*	Meeting more new people and experiencing new environment leave bigger opportunities to significantly grow personally and professionally.
January 24 It is school orientation at SMP Pelita Nusantara. Mr. Tantan Rustandi, the school headmaster and Ms. Perina, a teacher, gave us a glimpse of the school as well as their upcoming activities. Some students introduced themselves, and then we asked questions regarding our assigned classes and cooperating teachers. *Domain 2, Domain 4*	Everything in the school must be clear to you before you start your teaching for you to envision what you will do in your teaching.
January 25 I received my schedule of the classes that I will teach. I chose both National Math and Cambridge Math so that I can know their similarities and differences together with the Mathematics classes in the Philippines. *Domain 1, Domain 4*	Having dual curriculum enrich students' learning.
January 26 I started observing. The class was taking the exam and I saw that their tests are written in Bahasa Indonesia. *Domain 2, Domain 5*	Language is a big factor for learning of students. This also affects the validity of the students' learning.

Week 2 January 29-February 2, 2018

Significant Experience(s)	Learning(s)/Insight(s) Gained
January 29 My lesson was about Tangents of Circles. I used inquiry-based learning and lecture & discussion. In my materials, I used board markers to draw circles and their tangents. I prepared a brief lesson plan about tangents of circles so that Ms. Dian will see what I will do on the class. First, I let them review on the different parts of the circle. Then, I finally introduce to them the tangent of a circle. I stated the definition of tangent then I gave an illustration of a tangent. I also let the students have another illustration of a tangent. I called two students to do the task. It seems that one imitated the other and the class was laughing each other. Then, I clarified the illustration that some lines drawn are not a tangent based on the definition. Ms. Dian said that I need more to engage the students in the lessons by giving more examples. *Domain 1, Domain 2*	I also realized that I really need to give them more activities; I really need to know the lesson by heart so that I can teach efficiently. I need to improve my drawing of figures, I need to know more about my students, and I need to know more about their culture and everyday living to improve our rapport as well as our classroom discussion.
January 30 It's my second day. I have the same lesson which is all about tangents of a circle but this time, I taught the class of 8B. As Ms. Dian had suggested yesterday, I prepared some exercises which they will answer. I started with giving an illustration of a tangent, and then the students would describe the tangent. After that, I utilized their input to state its definition. I gave examples as well as non-examples for them to determine if a given line is a tangent or not. As I observed from the yesterday's class, they already know the Pythagorean triples. Everytime I asked them why a given line is a tangent, they said that it is because the dimensions are Pythagorean triples. Ms. Dian said that I performed better than yesterday. However, I still feel awkward to my students. *Domain 1, Domain 2*	I realized that I need to think of ways to be comfortable with each other. I also realized that giving more exercises will make the students more engaged.
January 31 Grade 8B was having their block examination.	As a future math educator, it is very important to familiarize and sink in to the environment of the students so that you can discuss it more

While taking their exams, they were asking questions to the teacher. Unlike in the Philippines, the students were not allowed to talk when taking their exams. Some were quiet, some were talking a lot. After their block exam, I observed Ms. Fika. Her lesson was about areas of plane figures. She used the whiteboard and board marker. She was using purely lecture. I taught Grade 7 and the topic was Social Arithmetic, specifically the concepts of overall price, price per unit, profit and loss and percentage. On the part of the students, they can able to solve the sample problems I have given to them. However, in order for them to understand, they still need to ask to their teacher since they will more understand it in Bahasa. On my part, I was struggling to discuss to them since the problems is in the context of Indonesia and I am not deeply inclined with this context. *Domain 4*	thoroughly.
February 1 I had a class in Grade 7 and the topic was about Discount and Tax. We had a drill first on the percentages of profit and loss since they struggle on these topics. We spent about 30 minutes in discussing with the items. I introduced them the concepts of discount and tax, gave real-life situations. And then, I gave examples from their context as well as from the Philippine context. It is introducing a lesson and introducing the Philippine culture at the same time. *Domain 1, Domain 2*	As a future mathematics educator, I will make my examples easier to compute for my future students to more understand the lesson.
February 2 I was teaching on how to get the distance of internal and external tangent. Instead of directly giving the formula, I asked series of questions until they discover the formula. I made and gave examples based on the Pythagorean triples so that everyone can solve more efficiently. I had a meeting with Dr. Jupri for some important matters to discuss. *Domain 1, Domain 2*	As a future mathematics educator, I will make my examples easier to compute for my future students to more understand the lesson. I also realized that in Indonesia, the students are not allowed to use calculators.

Week 3 February 5-8, 2018

Significant Experience(s)	Learning(s)/Insight(s) Gained
February 5 I was teaching class 8B. My lesson was about tangent of lines. I did the same procedure I did yesterday. I asked series of questions until they discover the formula. I made and gave examples based on the Pythagorean triples so that everyone can solve more efficiently. In class 8A, I discussed cubes and blocks, specifically face diagonal and space diagonal. They have no background knowledge about diagonals of a polygon so I first introduced that concept. After they introduced diagonals of a polygon, I introduced face diagonals and space diagonals of a polygon. Using different colors of board markers, I drew illustrations for the students to easily visualize. I let the students derive the formula for the measures of face diagonals and space diagonals through asking series of questions. Examples and exercises are given for the students to work out. *Domain 4, Domain 5, Domain 7*	This reminds me that students should have performance tasks. Don't focus too much on planning lecture and discussion. In planning their projects, know the objectives and the guidelines on how will they do the project.
February 6 I discussed about Probability on Grade 7 Maths class. In this class, I had conducted a preliminary activity wherein one person will close his/her eyes, the rest will change their seating arrangement, point a person and determine if the person he/she is pointing is a boy or a girl. Then a question was followed on why they always have boy as their choice. This will serve as the springboard to discuss probability. We discussed and then I gave examples and exercises for them to engage.	I realized that we must not focus purely on lecture and discussion. Let them also play so that they will be also energized.
February 7 I discussed Probability in class 8B. It comprises of probability that an event will not happen, equally likely outcomes, theoretical and experimental probabilities. In the first three subtopics, I gave situations that describe those concepts for the students to construct their definition. I had an activity which is using an improvised	Lack of resources should not be a barrier for the students to learn optimally. Sometimes, the teacher must need to improvise. It may not be as effective as the original materials but it can also help the students to learn.

spinner for each pair. In this activity, they will realize about experimental probability and theoretical probability. Based on the comments of Ms. Fika, I did well since the students were engaged. According to her, the only challenge that I have is the language since there are students who cannot fluently express their thoughts in English. *Domain 7*	
February 8 My lesson was about lines and angles, specifically position of lines and parallel lines cut by a transversal. I used board markers and carton as my instructional materials. I was about to let them review about angles for five minutes so that we can proceed immediately to lines. However, the class did not meet so we spend about fifteen minutes discussing everything about angles. I kept on asking them if the lesson is clear and if they had any questions so that they will follow. I presented the definition of necessary concepts, as well as their illustrations and examples. After that, I called them one by one to give examples. After they mastered the concepts, I proceeded to the theorems in which the students will discover through asking them series of questions. I gave them examples (finding the measure of an angle) wherein the theorems are applied, then I gave them exercises for them to fully understand the theorems. Based on the comments and suggestions of my mentor and cooperating teacher, I need to improve the interaction with students and to give more evaluation practice for the students to have more practice.	This day, I realized that using visual materials is more convenient and it really saves time (compared to my previous days that I need to spend more time to draw some figures before discussing them). Second, I realized that I still need to improve my interaction with the students (even though they said that it is just a minor point of improvement). As a future mathematics educator, I will study and apply more strategies in order for the students to understand my lesson in spite of language barrier.

Week 4 February 12-16, 2018

Significant Experience(s)	Learning(s)/Insight(s) Gained
February 14 I talked to my cooperating teachers as well as the other teachers from the school for debriefing and farewell. I also talked to my students for their farewell. *Domain 7*	Keep in touch with them for future personal and professional gathering.
February 15 This is the closing ceremony of the SEA Teachers program. Some of us spoke about their experiences and insights on the teaching experiences. *Domain 7*	Keep in touch with them for future personal and professional gathering.

Week 5 February 19-23, 2018

Significant Experience(s)	Learning(s)/Insight(s) Gained
February 22 I am assigned in ITL (specifically in Grade 9 classes) to have my remaining days of teaching practicum. I observed 9-Dewey and I was little amazed because their behavior improved somehow as well as their performance in class, though they still need a lot of improvement. Sir Decella gave me lessons to teach. I browsed the curriculum guide and I was surprised since the content on the curriculum guide was finished and I will teach the additional lessons that are not in curriculum guide and not on the textbook. *Domain 1, Domain 2*	As a future mathematics educator, it is good to have back-up lessons in case that you finished the contents for the entire year, as long as it suits on the knowledge, relevance and interests of the students.
February 23 I took the opportunity to teach immediately about Law of Tangents. Instead of presenting the derivation of formulas for law of tangents, I presented the formula immediately since some of the parts of derivation were not yet discussed. I had an example, then I solve together with the students so that they will be engaged too. It's already 30 minutes so I gave the students one more example for them to solve. Then, instead of five-item evaluation, I gave them two-item evaluation (i.e. for both classes) in order for them to have it done within the period. *Domain 1, Domain 2, Domain 4*	I realized that even though you really want to discuss a chunk of lesson in one period, you cannot do it due to limited time. On that limited time, you need to limit the lesson you will discuss but give the best opportunity for the students to learn that lesson.

Week 6 February 26-March 2, 2018

Significant Experience(s) and Observation(s)	Learning(s)/Insight(s) Gained
February 26 I was one of the proctors during the exam of 9-Woolard and 9-Dewey. While they were taking the exam, Sir made an answer key, then he asked me to verify the answers. So during my vacant time, I verified the answers and then I checked the students' papers. While I was checking I was deciding on how many points I will give on the problem solving. I checked first few papers and I got a bit sad since most of them haven't achieved the passing grade. Out of ten items in the problem solving, they got only two or three items correctly. *Domain 5*	Based on this experience (as well as experiences on on-campus teaching and teaching in Indonesia), I realized that there must be longer time allotment in problem solving since it takes time to apply the concepts and solve the problem. Second, prepare your answer key ahead of time, double-check the answer keys so that you can save time in checking.
February 27 There are no classes since most of them are having their rehearsals for their upcoming stage show. I continued checking their papers. While I was checking the papers. While I was checking, I became happy that someone passed the test! I was still a bit stressed out since some of the students didn't get the concept and it was evident on the problem solving part. Some used the wrong formula, some have wrong substitution, some just show the answer like magic, etc. I planned to have some sort of remedial class since most of them are failed but my cooperating teacher didn't allow me. Instead, we will continue to the next lesson. *Domain 1, Domain 5*	I realized that it will be frustrating on the part of the teacher if most of the students will fail on the exam. I felt it even though I only taught last Friday. This is how we feel assessment as, for and of learning. We have to give importance to the assessment.
February 28 I made two lesson plans about cosine and sine of sum and difference of two angles. However, Sir instructed me to teach the two lessons for one day, then I will discuss tangent of sum and difference of two angles on the next day. I was having second thoughts if I will discuss the derivation because the period is only one hour and students must have longer time to solve. In the end, I chose to discuss the derivation of sine	I was experiencing the dilemma of time, amount of lesson to teach and quality of learning for students. I more realized that these are the things to consider and balance when planning the lesson.

of the sum and difference of two angles based on the cosine just to cope with the one-hour period. Then, on the tangent of the sum and difference, I will also discuss their derivations and give examples. *Domain 4*	
March 1 I taught about cosine and sine of the sum and difference of two angles. The class was too quiet so I asked questions and since no one raised their hands, I called someone. *Domain 1, Domain 2*	There are some questions were the class was answered in chorus but there are some questions wherein only one will only answer.
March 2 I taught about tangent of the sum and difference of two angles. I didn't struggle much since the students already know the formulas for the cosine and sine of the sum and difference of two angles *Domain 1, Domain 2*	The class was able to remember the concepts. The next challenge that I will have is how to enrich the concepts that they learned aside from doing exercises.

Week 7 March 5-9, 2018

Significant Experience(s) and Observation(s)	Learning(s)/Insight(s) Gained
March 5 I taught about cosine and sine of the sum and difference of two angles. In 9-Dewey, they were struggling since they didn't understand by heart the sines and cosines of some special angles. Sir spent time on teaching those values up to the point that there's no time for evaluation. Same in the 9-Woolard but instead of spending the entire period for today's lesson, we discussed about conversion from degrees to radian and vice versa. *Domain 1, Domain 4*	This reminds me to plan the sequencing of the lesson carefully (though I didn't expect that they didn't tackle the prerequisite knowledge required).
March 6 I continued discussing double-angle. I gave them more exercises. Then, I gave another form of exercise then I immediately gave them evaluation so that they will have more time to answer the items. *Domain 1, Domain 4*	Actually, they really understand the lesson. Minimize time for presentation (without sacrificing the quality of delivering the lesson) and have adequate time allotted for evaluation.

DOMAIN 1 CONTENT KNOWLEDGE AND PEDAGOGY

Strands:

1. Content knowledge and its application within and across curriculum areas
2. Research-based knowledge and principles of teaching and learning
3. Positive use of ICT
4. Strategies for promoting literacy and numeracy
5. Strategies for developing critical and creative thinking, as well as other higher-order thinking skills
6. Mother Tongue, Filipino and English in teaching and learning
7. Classroom communication strategies

REFLECTIONS

It's not enough to just browse on the textbook of your students just to know what you will teach for today. The first thing you consider is to know the curriculum in general, then the specific details before you proceed to the topic that you will discuss. Even in other countries, their Education ministry or department indicates the content standards, performance standards and learning competencies on their curriculum.

On research-based knowledge and principles of teaching and learning, I realized that it is not enough to know what you have learned on the professional education lectures. Every teacher must know the trends and current issues in education and these can be seen in current educational researches.

On positive use of ICT, it starts on making of the lesson plans. Even though the classrooms I've been teaching have no permanent digital facilities for teaching, you should seek ways to make your lessons easier through the use of ICT.

On strategies for promoting literacy and numeracy, make your lessons more contextualized as possible. It is also better if you can have a part of your lesson in other contexts you're familiar with so that the students will learn other cultures. In my teaching in Indonesia, I have a lesson where I gave examples in their context and examples in Philippine context. I taught the lesson and introduced the Philippine culture at the same time.

On the strategies for developing critical and creative thinking, as well as other higher-order thinking skills, consider the number of students because this will affect the quality of developing these kinds of thinking. In mathematics, as much as possible, the concepts must come from them by discovery, inductive and deductive reasoning. Inquiry-based learning can be an effective approach in most math lessons to develop those kinds of thinking.

In Mother Tongue, Filipino and English in teaching and learning, students learn best when they understand the lesson and they will understand if you are able to speak on their language. If not, you use other language in which both of you will understand. In discussing the lesson, consider also the students' level of fluency. Use simple words in teaching the lesson.

In classroom communication strategies, from the very first day of your teaching, it is important to establish rules in the class so you will not struggle on the next day in managing the class and teaching your lesson. Without establishing rules, there's a tendency for you to be inconsistent and the students will lose their trust to you.

EVIDENCES

Conceptual Framework of Mathematics Education and Grade Level Standards based on the K-12 Mathematics Curriculum

K to 12 BASIC EDUCATION CURRICULUM

Figure 1.The Conceptual Framework of Mathematics Education

K to 12 BASIC EDUCATION CURRICULUM

GRADE LEVEL	GRADE LEVEL STANDARDS
	10 000 000, order of operations, factors and multiples, fractions and decimals including money, ratio and proportion, percent); geometry (polygons, circles, solid figures); patterns and algebra (sequence and number sentences); measurement (time, circumference, area, volume, and temperature); and statistics and probability (tables, line graphs and experimental probability) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 6	The learner demonstrates understanding and appreciation of key concepts and skills involving numbers and number sense (divisibility, order of operations, fractions and decimals including money, ratio and proportion, percent, integers); geometry (plane and solid figures); patterns and algebra (sequence, expression, and equation); measurement (rate, speed, area, surface area, volume, and meter reading); and statistics and probability (tables, pie graphs, and experimental and theoretical probability) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 7	The learner demonstrates understanding of key concepts and principles of numbers and number sense (sets and real number system); measurement (conversion of units of measurement);patterns and algebra (algebraic expressions and properties of real numbers as applied in linear equations and inequalities in one variable); geometry (sides and angles of polygons); and statistics and probability (data collection and presentation, and measures of central tendency and variability) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 8	The learner demonstrates understanding of key concepts and principles of patterns and algebra (factors of polynomials, rational algebraic expressions, linear equations and inequalities in two variables, systems of linear equations and inequalities in two variables); geometry (axiomatic structure of geometry, triangle congruence, inequalities in a triangle, and parallel and perpendicular lines); and statistics and probability (probability of simple events) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 9	The learner demonstrates understanding of key concepts and principles of patterns and algebra (quadratic equations and inequalities, quadratic functions, rational algebraic equations, variations, and radicals) and geometry (parallelograms and triangle similarities and basic concepts of trigonometry) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 10	The learner demonstrates understanding of key concepts and principles of patterns and algebra (sequences, series, polynomials, polynomial equations, and polynomial functions); geometry (circles and coordinate geometry); and statistics and probability (combinatorics and probability, and measures of position) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.

Time Allotment:

Grade	1	2	3	4	5	6	7	8	9	10

Republic of the Philippines
Philippine Normal University
The National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING
Manila

Practice Teaching Form 7

PT's Professional Readings

Bautista, J. (n.d.). Professional Education: Principles and Methods of Teaching. Manila: Philippine Normal University

Area **EDUCATION-CLASSROOM MANAGEMENT**

Key Points	Why do you feel this is helpful in teaching?	In what learning situation(s) is this applicable?
According to Bautista (n.d.), classroom management includes operation and control of activities such as seating, attendance, use of instructional materials, classroom courtesies which require planning. Teachers must possess the qualities of designing an orderly surrounding, establishing rules, adapting uncontrollable conditions and knowing how to seek help from school professionals and parents.	This is helpful in teaching that I can minimize unnecessary circumstances such as class's noise, maximize learning time and face unexpected circumstances.	This is applicable in the entire class hour, from entering the room to greeting them goodbye. This is also applicable in planning your instruction, seeking help to the school personnel concerned to utilize the facilities in the school.

Republic of the Philippines
Philippine Normal University
The National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING
Manila

Practice Teaching Form 7

PT's Professional Readings

Gawron, H. (2016). What the heck is inquiry-based learning?. *Edutopia.* Retrieved from https://www.edutopia.org/blog/what-heck-inquiry-based-learning-heather-wolpert-gawron

Area **INQUIRY-BASED LEARNING**

Key Points	Why do you feel this is helpful in teaching?	In what learning situation(s) is this applicable?
Inquiry-based learning is about triggering curiosity to learn something new. Teachers encourage inquiry and the students develop their own skills as content-area experts. In inquiry-based learning, the students develop questions that they are hungry to answer, research the topic using time in class, present what they've learned and reflect on what worked about the process and what didn't.	This is helpful in teaching because this will make students active in the discussion through asking questions. This will also help the students to probe, investigate and go deeper to the lesson.	This is applicable mostly on discussion since both the teacher and the student will talk and listen.

OTHER PROFESSIONAL READINGS

Guido, M. (2017). All about inquiry-based learning: Definition, benefits and strategies. Prodigy. Retrieved from https://www.prodigygame.com/blog/inquiry-based-learning-definition-benefits-strategies/

Area **INQUIRY-BASED LEARNING**

Key Points

From a student point of view, it focuses on investigating an open question or problem.

From a teacher point of view, it focuses on moving students beyond general curiosity into the realms of critical thinking and understanding

Activities can be in a form of case studies, group projects, research projects, field work and unique exercises.

Why do you feel this is helpful in teaching?

This is helpful in teaching since this approach will enhance the students' creative and critical thinking as well as higher order thinking skills.

In what learning situations is this applicable?

This is applicable through giving them activities that mainly focuses on guided discovery, that is, the teacher will give set of sequenced questions in which the students will answer and learn from those answers.

Pitler, H., Hubell, E. & Kuhn, M. (2012). Using Technology with Classroom Instruction That Works (2nd ed). Retrieved from http://www.ascd.org/publications/books/112012/chapters/Cooperative-Learning.aspx

Area **COOPERATIVE LEARNING**

Key Points

Cooperative learning provides an environment where students can reflect upon newly acquired knowledge, process what they are learning by talking with and actively listening to their peers, and develop common understanding about topics.

Three recommendations for classroom practice are the following: Include elements of both positive interdependence and individual accountability; keep group size small; and use cooperative learning consistently and systematically.

Why do you feel this is helpful in teaching?

This is helpful in teaching because this will help the students to be responsible enough for their own learning through learning together. Through cooperative learning, they were accountable to the things that they have learned and they will learn.

In what learning situations is this applicable?

This is applicable in mainly giving dual and group tasks.

TeacherVision. (n.d.). Cooperative Learning. Retrieved from https://www.teachervision.com/professional-development/cooperative-learning

Area **COOPERATIVE LEARNING**

Key Points

It is an instructional strategy in which small groups of students work together on a common task.

It has five basic elements that allow successful cooperative learning: Positive interdependence, face-to-face interaction, individual and group accountability, group behaviors and group processing.

Using cooperative groups to accomplish academic tasks not only provides opportunities for students to develop interpersonal skills but also gives them authentic experiences that will help them be successful in their future careers.

Why do you feel this is helpful in teaching?

This is helpful in teaching since the students will not learn only from the teacher but also from their classmates having group activities.

In what learning situations is this applicable?

This is applicable in conducting group activities and giving group projects as well as having research, solving for a challenging math problem and letting them conduct a study.

Experiential Learning. (n.d.). Retrieved from https://facultyinnovate.utexas.edu/experiential-learning

Area **EXPERIENTIAL LEARNING**

Key Points

Experiential learning is about creating assignments and activities based on real-life situations or primary research that engage students in reflective, data-driven problem-solving with no predetermined right answers.

It contains all the following elements: reflection, critical analysis and synthesis, opportunities for students to take initiative, make decisions and be accountable for the results.

A teacher must choose relevant experiences that complement to the course outcomes.

Why do you feel this is helpful in teaching?

This is helpful in teaching since it will help the students to be mindful on themselves and the things that they have learned.

In what learning situations is this applicable?

This is applicable mostly during and after the classroom discussion where the students will discover more how much they have learned and how to they apply in their situations in life.

Learning Theories (n.d.). Experiential learning (Kolb). Retrieved from https://www.learning-theories.com/experiential-learning-kolb.html

Area **EXPERIENTIAL LEARNING**

Key Points

Kolb's experiential learning theory is a holistic perspective that combines experience, perception, cognition, and behavior.

It presents a four-stage cyclical model. Those stages are: Concrete experience (Do), reflective observation (observe), abstract conceptualization (think) and active experimentation (plan).

Why do you feel this is helpful in teaching?

This is helpful in teaching since the students will not just stare at the board and listen to the teacher but they will do the tasks given by the teacher, reflect on the things they have done and plan on the things they will do on the succeeding days.

In what learning situations is this applicable?

This is applicable in giving performance-based activities and assessment.

Reflective Learning. (n.d.). Retrieved from https://www.kent.ac.uk/learning/PDP-and-employability/pdp/reflective.html

Area **REFLECTIVE LEARNING**

Key Points

In reflective learning, students can (1) critically evaluate their learning; (2) identify areas of their learning that require further development; and (3) make themselves more independent learners.

In Gibbs reflective cycle, the stages are: Description, feelings, evaluation, analysis, conclusion and action plan.

The benefits of reflective learning include recording your development, knowing your strengths and weaknesses, understanding how you learn, developing self-awareness, planning your own development, learning about yourself, articulating your skills/learning to others and learning from your mistakes.

Why do you feel this is helpful in teaching?

This is very helpful in teaching since the students can also reflect on the things they have learned and how they will apply on their daily situation as well as on their goals.

In what learning situations is this applicable?

This is applicable usually during & after the class discussion, and on the time that the assessment results are released to the students.

Concept to Classroom. (n.d.). What is Constructivism?. Retrieved from http://www.thirteen.org/edonline/concept2class/constructivism/

Area **CONSTRUCTIVISM**

Key Points

People construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences.

There are various teaching practices but in the general sense, students must be encouraged to use active techniques (e.g. experiments, real-world problem solving) to create more knowledge.

"Constructivist teachers encourage students to constantly assess how the activity is helping them gain understanding. By questioning themselves and their strategies, students in the constructivist classroom ideally become 'expert learners.' This gives them ever-broadening tools to keep learning. With a well-planned classroom environment, the students learn HOW TO LEARN."

Why do you feel this is helpful in teaching?

This is helpful in teaching since the students will use their prior knowledge in order to build their new set of knowledge.

In what learning situations is this applicable?

This is applicable mainly on classroom discussion as well as in guiding the students to make their performance tasks.

Sample Lesson Plan

Philippine Normal University
National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING

A Semi-detailed Lesson Plan in Grade 9 Mathematics on Double-Angle Formulas

By:
ZITA, JOANABELLE C.
IV-18 BME

Submitted to:
PROF. ROLANDO DECELLA

I. TOPIC: Trigonometric Identities
SUBTOPIC: Double Angle Formula
REFERENCES:
Isaac, E. et al. (2009). *Trigonometry*: Plane & spherical
Marquez, W. (n.d.). *Plane trigonometry*. Philippine Normal University
Using Double- and Half-Angle Formulas. (n.d.). Retrieved from http://www.classzone.com/eservices/home/pdf/teacher/LA214GAD.pdf

MATERIALS: Board markers, visual aids

II. OBJECTIVES

At the end of the period, the students should be able to:

A. demonstrate knowledge on the concepts of the double-angle formulas;
B. Evaluate the given trigonometric expressions using double-angle formulas; and
C. actively participate in the discussion.

III. STRATEGY

A. Inquiry-based learning
B. Lecture and discussion
C. Evaluation

IV. PROCEDURE

A. Daily routines

B. Drill /Review

Tangent of the Sum of Two Angles

$$\tan(A+B) = \frac{tanA + tanB}{1 - tanAtanB}$$

Tangent of the Difference of Two Angles

$$\tan(A-B) = \frac{tanA - tanB}{1 + tanAtanB}$$

C. Lesson Proper

1. Motivation
   Find the following in one minute WITHOUT using your scientific calculator.
   a. $\sin 120°$
   b. $\cos 150°$
   c. $\tan 210°$
   There is more convenient way of solving these. This is through the use of double-angle formulas.
2. Presentation
   We have angle A. What is the twice of A?
   Let us first derive the formula for $\sin 2A$.
   How can we express $\sin 2A$ in terms of sine of the sum of two angles?
   What is $\sin(A + A)$ based on the formula of the sine of the sum of two angles?
   If we further simplify this expression, what will be the result?

Sine of Twice an Angle

$$\sin 2A = 2\sin A \cos A$$

How can we express $\cos 2A$ in terms of cosine of the sum of two angles?
What is $\cos(A + A)$ based on the formula of the cosine of the sum of two angles?
If we further simplify this expression, what will be the result?

Cosine of Twice an Angle

$$\cos 2A = \cos^2 A - \sin^2 A$$

There are other formulas for cos2A. Let us use the identity $\sin^2 A + \cos^2 A = 1$.
Based on the identity, what is $\sin^2 A$? What is $\cos^2 A$?
If we substitute $\cos^2 A$ by $1 - \sin^2 A$, what is cos2A?

$$\cos 2A = 1 - 2\sin^2 A$$

If we substitute $\sin^2 A$ by $1 - \cos^2 A$, what is cos2A?

$$\cos 2A = 2\cos^2 A - 1$$

For the tangent of twice an angle, how do we express $\tan 2A$ in terms of sine and cosine?
What is sin2A and cos2A?
For the terms to be expressed in terms of tangent, what will be the divisor for both numerator and denominator?
If we further simplify this one, what will be the result?

Tangent of Twice an Angle

$$\tan 2A = \frac{2\tan A}{1 - \tan^2 A}$$

Example

Find the value of $\sin 60°$, $\cos 60°$ and $\tan 60°$using the double-angle formula.
$\sin 60°$ is double of what measure of angle?

$$\sin 2A = 2\sin A \cos A$$
$$\sin 2(30°) = 2\sin 30° \cos 30°$$
$$\sin 2(30°) = 2\left(\frac{1}{2}\right)\left(\frac{\sqrt{3}}{2}\right)$$
$$\sin 2(30°) = \frac{\sqrt{3}}{2}$$

$$\cos 2A = \cos^2 A - \sin^2 A$$
$$\cos 2(30°) = \cos^2 30° - \sin^2 30°$$
$$\cos 2(30°) = \left(\frac{\sqrt{3}}{2}\right)^2 - \left(\frac{1}{2}\right)^2$$
$$\cos 2(30°) = \frac{3}{4} - \frac{1}{4}$$
$$\cos 2(30°) = \frac{1}{2}$$

$$\tan 2(30°) = \frac{2\tan 30°}{1 - \tan^2 30°}$$
$$\tan 2(30°) = \frac{2\left(\frac{\sqrt{3}}{3}\right)}{1 - \left(\frac{\sqrt{3}}{3}\right)^2}$$
$$\tan 2(30°) = \sqrt{3}$$

3. Applications
   1. Find the value of $\sin 150°$, $\cos 150°$, $\tan 150°$ using the double-angle formula.

$\sin 2A = 2\sin A \cos A$ $\sin 2(75°) = 2\sin 75° \cos 75°$ $\sin 2(75°)$ $= 2\left(\frac{\sqrt{6}+\sqrt{2}}{4}\right)\left(\frac{\sqrt{6}-\sqrt{2}}{4}\right)$	$\cos 2A = \cos^2 A - \sin^2 A$ $\cos 2(75°) = \cos^2 75° - \sin^2 75°$	$\tan 2(75°) = \frac{2\tan 75°}{1 - \tan^2 75°}$

2. Find cos4C if sin2C=y and cos2C=x

$\cos 4C = \cos^2 2C - \sin^2 2C$ $\cos 4C = (\cos 2C)^2 - (sin2C)^2$	$\cos 4C = x^2 - y^2$

4. Generalization

Here are the double-angle formulas.

$\sin 2A = 2\sin A\cos A$	$\tan 2A = \frac{2\tan A}{1 - \tan^2 A}$
$\cos 2A = \cos^2 A - \sin^2 A$ $\cos 2A = 1 - 2\sin^2 A$ $\cos 2A = 2\cos^2 A - 1$	

5. Evaluation

Find the following WITHOUT using your calculator or trigonometric tables. Show your complete solutions.

a. $\sin 120°$, $\frac{\sqrt{3}}{2}$

b. $\cos 210°$ $-\frac{\sqrt{3}}{2}$

c. $\tan 120°$ $-\sqrt{3}$

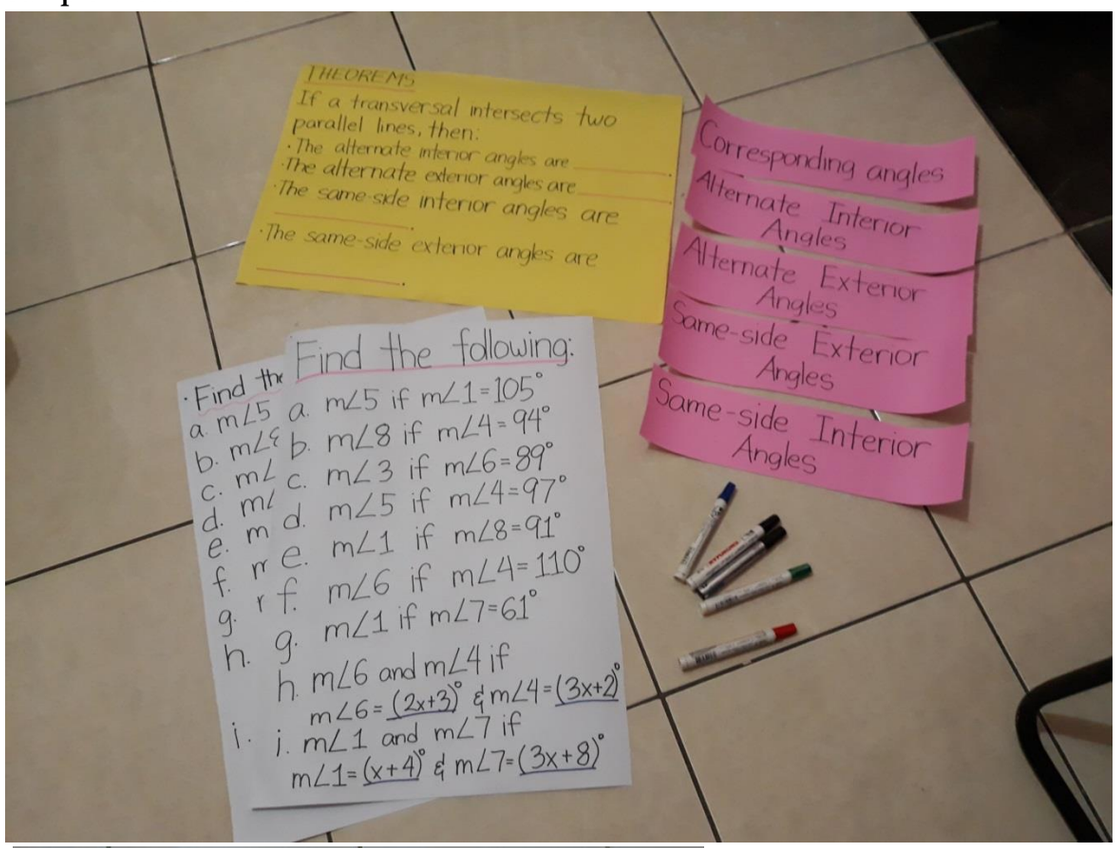
d. Find tan6C if sin3C=y and cos3C=x $\frac{2xy}{x^2-y^2}$

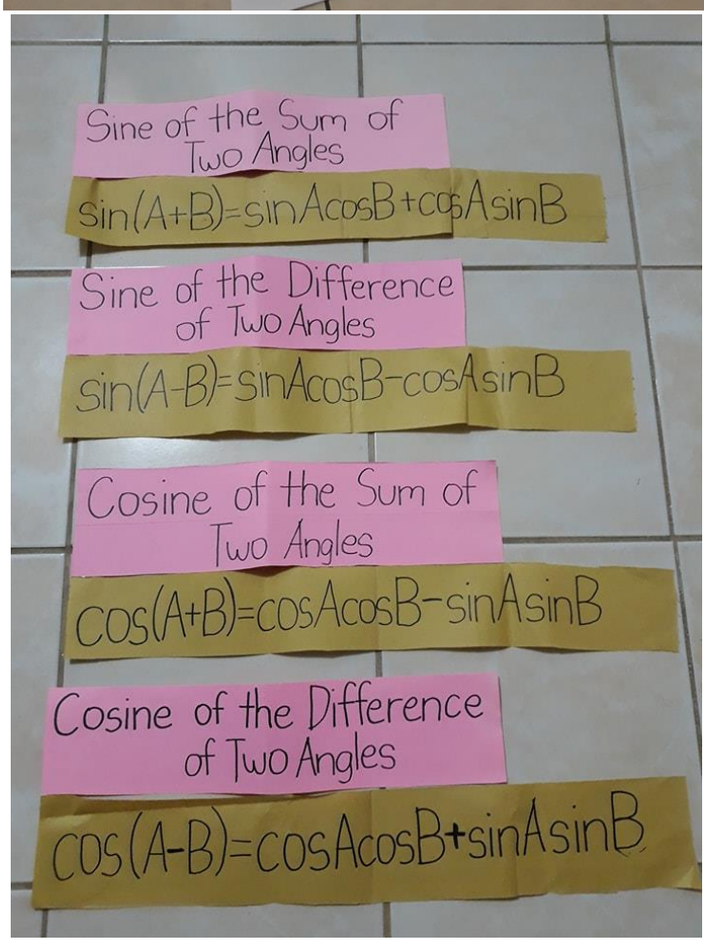
e. sin4D if sinD=a and cosD=b $4a^3b - 4ab^3$

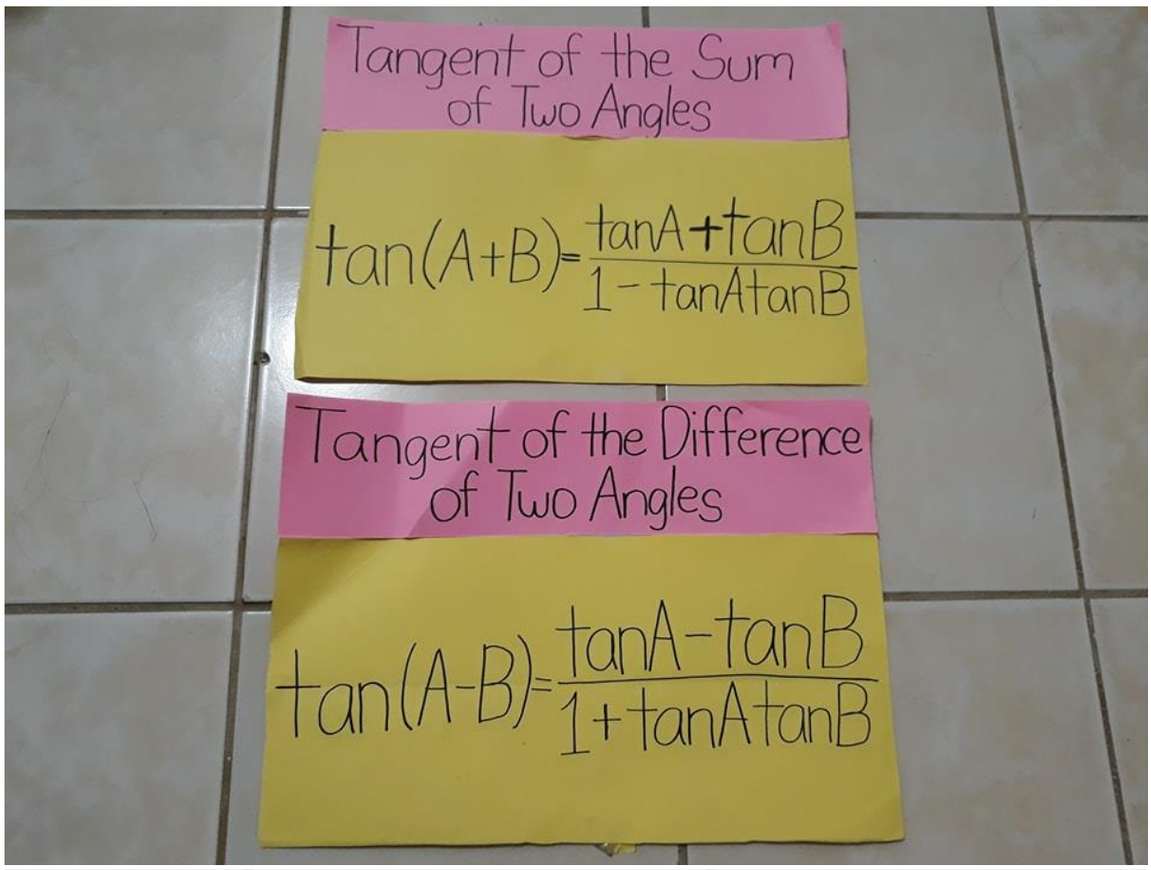
V. **AGREEMENT**

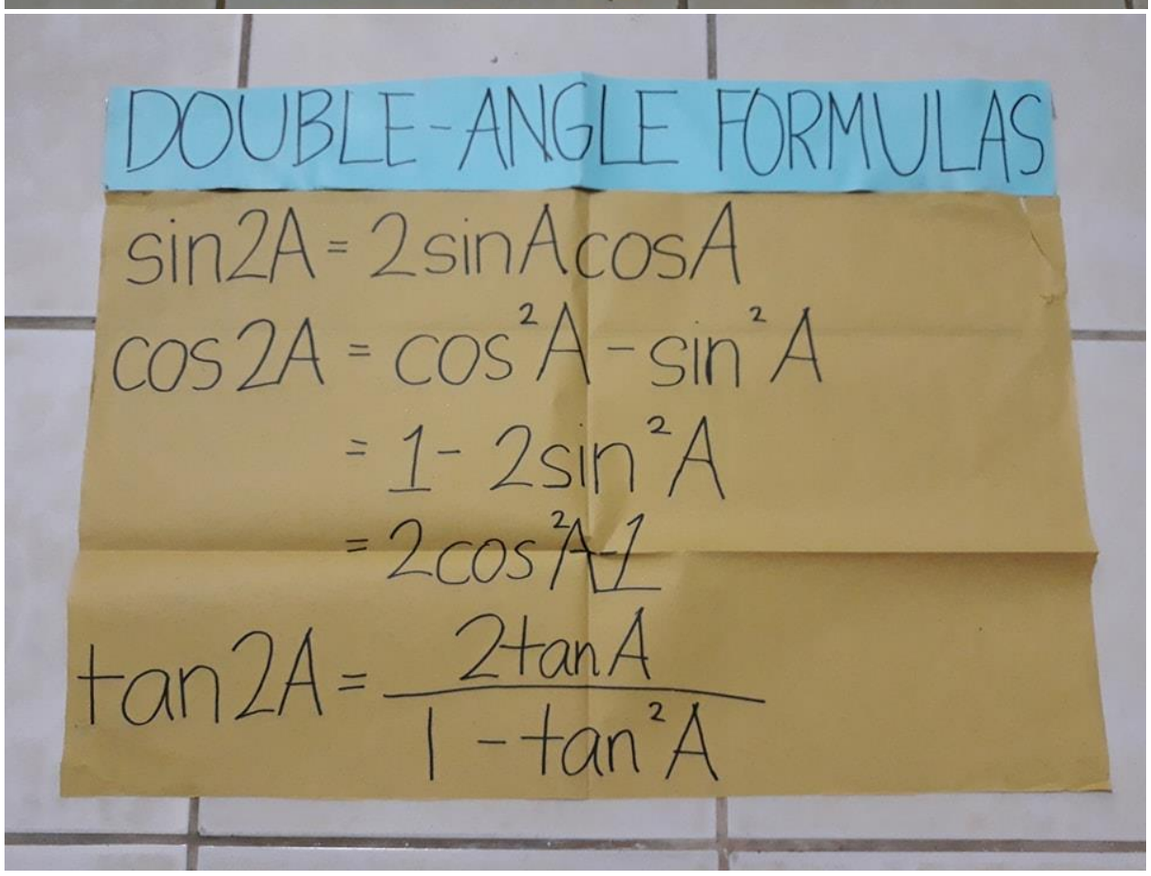
Find the value of $\sin 2A$, $\cos 2A$ and $\tan 2A$ if $\cos A = \frac{7}{25}$ and A is in QI.

Sample Visual Aids






Tangent of the Sum of Two Angles
$\tan(A+B)=\frac{\tan A+\tan B}{1-\tan A\tan B}$
Tangent of the Difference of Two Angles
$\tan(A-B)=\frac{\tan A-\tan B}{1+\tan A\tan B}$


DOUBLE-ANGLE FORMULAS
$\sin 2A = 2\sin A\cos A$
$\cos 2A = \cos^2 A - \sin^2 A$
$= 1 - 2\sin^2 A$
$= 2\cos^2 A - 1$
$\tan 2A = \frac{2\tan A}{1-\tan^2 A}$

DEMONSTRATION TEACHING EXPERIENCES AND REFLECTIONS

School profile

SMP Pelita Nusantara is an international school located in Bandung, West Java, Indonesia. This school is near the railways and airport. For having an "A" accreditation and providing a *Homey School for Future Leaders*, the school has dual curriculum: one curriculum is the national curriculum and another one is the Cambridge curriculum. The content areas from the national curriculum are taught in Bahasa Indonesia while the content areas from the Cambridge curriculum are taught in English. The students usually use textbooks and learning modules as their learning materials. A part of their curriculum is the *7 Habits* wherein the students will study and apply the 7 Habits of Highly Successful Teens from Stephen Covey

The school usually uses lecture and discussion as their teaching method. In the classroom setting, traditional teaching materials were usually used but sometimes, digital teaching materials can be used such as LCD projector.

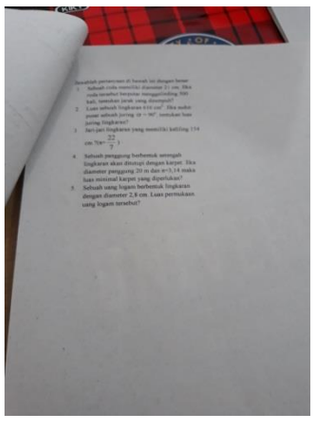
In terms of the school's assessment and evaluation system, the students have their block examinations, mid-semester examination and final examination. Block examinations are formative assessments while mid-semester examination and final examination are summative assessments. Their scores in each examination were expressed in percentages rather than raw scores.

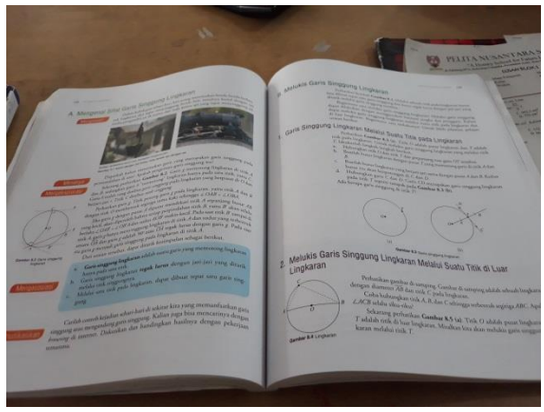
In the teaching plan, national mathematics and Cambridge mathematics differ. In the national mathematics (MTK), the teaching plans were discussed in detail, indicating the learning competencies, objectives, content that need to be discussed, as well as the time allotted and exercises that the students should answer. While in the Cambridge mathematics, the teaching plans were discussed briefly, from the learning objectives, success criteria, description of activities, additional notes, etc.

Observation

This is the first time we rode a school shuttle bus from the SD (elementary school) to SMP (secondary school).

7 Habits, based from the book of Stephen Covey, is anchored to the curriculum of the school. It is taught every Monday and Friday.

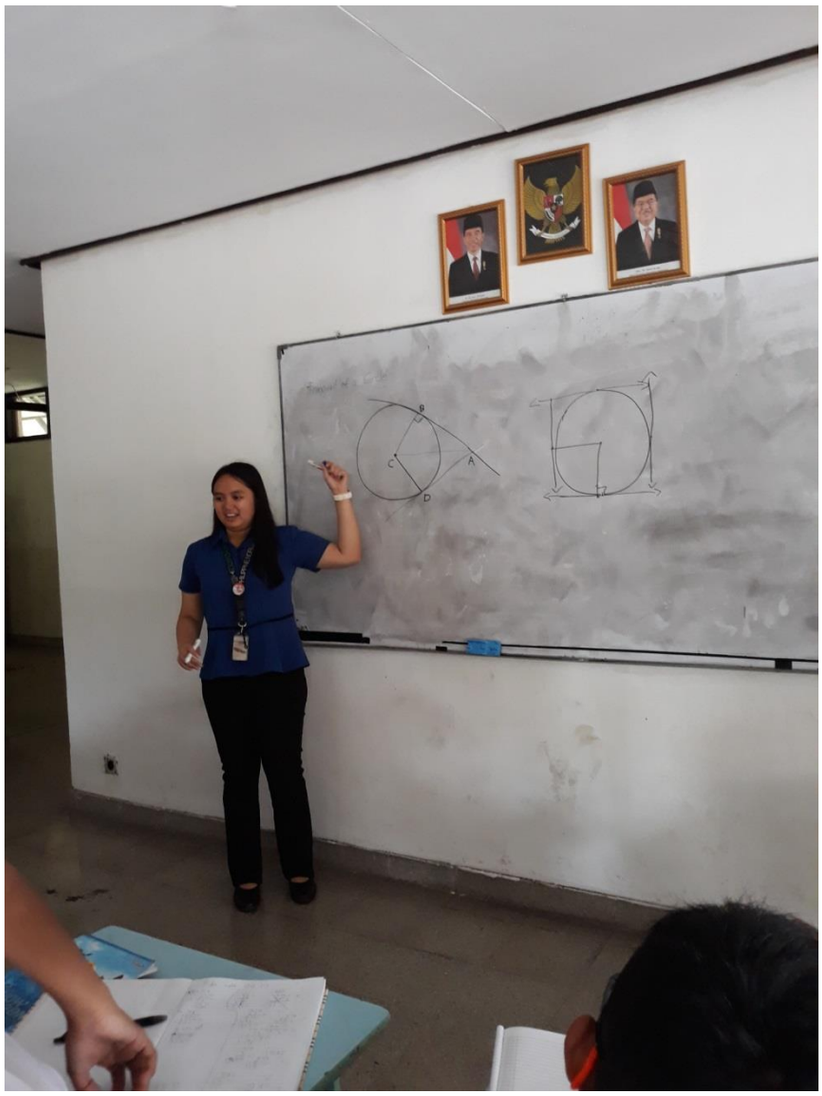




Based on their materials and examinations, mathematics is taught in Bahasa Indonesia.

Teaching in the Classroom

January 29



It is my first day in teaching. Since I haven't observed a formal math class yet, I was thinking of what I'm going to do since this is a different context for me. I used some of the teaching methods I used to do in the Philippines.

My lesson was about Tangents of Circles. I used inquiry-based learning and lecture & discussion. In my materials, I used board markers to draw circles and their tangents.

I prepared a brief lesson plan about tangents of circles so that Ms. Dian will see what I will do on the class.

While I was waiting for my turn to teach, I stayed at the canteen together with the persons there. Even though I don't much understand Bahasa Indonesia, at least I understand what they were trying to say. I also taught them some Filipino words such as *maganda, pogi* and *kamusta.* Of course, I learned more words in Bahasa such as *cantik* (beautiful), *bagus* (good).

The class began. First, I let them review on the different parts of the circle. Then, I finally introduce to them the tangent of a circle. I stated the definition of tangent then I gave an illustration of a tangent. I also let the students have another illustration of a tangent.

I called two students to do the task. It seems that one imitated the other and the class was laughing each other. Then, I clarified the illustration that some lines drawn are not a tangent based on the definition.

Ms. Dian said that I need more to engage the students in the lessons by giving more examples.

I also realized that I really need to give them more activities, I really need to know the lesson by heart so that I can teach efficiently.

The things I realized? I need to improve my drawing of figures, I need to know more about my students, and I need to know more about their culture and everyday living to improve our rapport as well as our classroom discussion.

January 30

It's my second day. I have the same lesson which is all about tangents of a circle but this time, I taught the class of 8B. As Ms. Dian had suggested yesterday, I prepared some exercises which they will answer.

I started with giving an illustration of a tangent, and then the students would describe the tangent. After that, I utilized their input to state its definition. I gave examples as well as non-examples for them to determine if a given line is a tangent or not.

As I observed from the yesterday's class, they already know the Pythagorean triples. Everytime I asked them why a given line is a tangent, they said that it is because the dimensions are Pythagorean triples.

Ms. Dian said that I performed better than yesterday. However, I still feel awkward to my students.

I realized that I need to think of ways to be comfortable with each other. I also realized that giving more exercises will make the students more engaged.

January 31

Grade 8B was having their block examination. While taking their exams, they were asking questions to the teacher. Unlike in the Philippines, the students were not allowed to talk when taking their exams.

Some were quiet, some were talking a lot.

After their block exam, I observed Ms. Fika. Her lesson was about areas of plane figures. She used the whiteboard and board marker. She was using purely lecture.

I taught Grade 7 and the topic was Social Arithmetic, specifically the concepts of overall price, price per unit, profit and loss and percentage.
On the part of the students, they can able to solve the sample problems I have given to them. However, in order for them to understand, they still need to ask to their teacher since they will more understand it in Bahasa.
On my part, I was struggling to discuss to them since the problems is in the context of Indonesia and I am not deeply inclined with this context.

As a future math educator, it is very important to familiarize and sink in to the environment of the students so that you can discuss it more thoroughly.

<u>February 1</u>

I had a class in Grade 7 and the topic was about Discount and Tax.

We had a drill first on the percentages of profit and loss since they struggle on these topics. We spent about 30 minutes in discussing with the items.

I introduced them the concepts of discount and tax, gave real-life situations. And then, I gave examples from their context as well as from the Philippine context. It is introducing a lesson and introducing the Philippine culture at the same time.

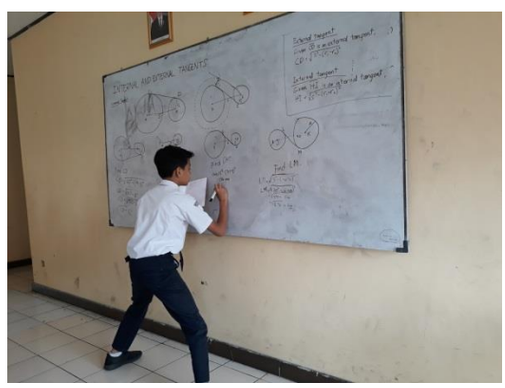
<u>February 2</u>

I was teaching on how to get the distance of internal and external tangent. Instead of directly giving the formula, I asked series of questions until they discover the formula. I made and gave examples based on the Pythagorean triples so that everyone can solve more efficiently. I also realized that they're not allowed to use calculators.

As a future mathematics educator, I will make my examples easier to compute for my future students to more understand the lesson.

<u>February 5</u>

I was teaching class 8B. My lesson was about tangent of lines. I did the same procedure I did yesterday. I asked series of questions until they discover the formula. I made and gave examples based on the Pythagorean triples so that everyone can solve more efficiently.



In class 8A, I discussed cubes and blocks, specifically face diagonal and space diagonal. They have no background knowledge about diagonals of a polygon so I first introduced that concept. After they introduced diagonals of a polygon, I introduced face diagonals and space diagonals of a polygon. Using different colors of board markers, I drew illustrations for the students to easily visualize. I let the students derive the formula for the measures of face diagonals and space diagonals through asking series of questions. Examples and exercises are given for the students to work out.

February 6

I discussed about Probability on Grade 7 Maths class. In this class, I had conducted a preliminary activity wherein one person will close his/her eyes, the rest will change their seating arrangement, point a person and determine if the person he/she is pointing is a boy or a girl. Then a question was followed on why they always have boy as their choice. This will serve as the springboard to discuss probability. We discussed and then I gave examples and exercises for them to engage.

I realized that when the class is small, it doesn't mean that every student is attentive to you. You must think a better way for them to listen and learn optimally.

February 7

Lack of resources should not be a barrier for the students to learn optimally. Sometimes, the teacher must need to improvise. It may not be as effective as the original materials but it can also help the students to learn.

I discussed Probability in class 8B. It comprises of probability that an event will not happen, equally likely outcomes, theoretical and experimental probabilities. In the first three subtopics, I gave situations that describe those concepts for the students to construct their definition.

I had an activity which is using an improvised spinner for each pair. In this activity, they will realize about experimental probability and theoretical probability.

Based on the comments of Ms. Fika, I did well since the students were engaged. According to her, the only challenge that I have is the language since there are students who cannot fluently express their thoughts in English.

February 8

My lesson was about lines and angles, specifically position of lines and parallel lines cut by a transversal.

I used board markers and carton as my instructional materials.

I was about to let them review about angles for five minutes so that we can proceed immediately to lines. However, the class did not meet so we spend about fifteen minutes discussing everything about angles. I kept on asking them if the lesson is clear and if they had any questions so that they will follow.

I presented the definition of necessary concepts, as well as their illustrations and examples. After that, I called them one by one to give examples.

After they mastered the concepts, I proceeded to the theorems in which the students will discover through asking them series of questions.

I gave them examples (finding the measure of an angle) wherein the theorems are applied, then I gave them exercises for them to fully understand the theorems.

Due to the lack of time, I wasn't able to conduct evaluation. Instead, the items from evaluation will serve as their take-home activity for enrichment.

Based on the comments and suggestions of my mentor and cooperating teacher, I need to improve the interaction with students and to give more evaluation practice for the students to have more practice.

I can't believe that I did it once again! This day, I realized that using visual materials is more convenient and it really saves time (compared to my previous days that I need to spend more time to draw some figures before discussing them). Second, I realized that I still need to improve my interaction with the students (even though they said that it is just a minor point of improvement).

As a future mathematics educator, I will study and apply more strategies in order for the students to understand my lesson in spite of language barrier.

In retrospection

The main reason that I want to pursue my practice teaching in Indonesia is to explore and experience their culture.

It's not enough for me to just read or see different places on the internet. It is not enough to just see and analyze educational systems in other countries and do some research without immersing on it. That is the main reason that I want to pursue my practice teaching in Indonesia; it is to explore and experience their educational system and culture.

Two biggest challenges I faced during my practicum is the language and applying the lesson into their context. Language was a biggest challenge for me because some students are not that fluent in English as Filipino students do. The students here really need to talk each other (while in class) in order to understand what I've discussed. Contextualization is also a biggest challenge for me simply because I'm still not deeply immersed into their environment. Like when I discussed social arithmetic, I need to give examples based on the real-life situations especially dealing with the prices of the items.

On those challenges, I got the opportunity to know more about their environment, to speak Indonesian and Sundanese to local people (though I still need to learn more), to sense whether an item is expensive or cheap WITHOUT converting Indonesian Rupiah to Philippine Peso and to happily share about Philippines from math classes, faculty and staff from the school up to the people in the university.

TEACHING PRACTICUM IN ITL

February 22

I am assigned in ITL (specifically in Grade 9 classes) to have my remaining days of teaching practicum. I observed 9-Dewey and I was little amazed because their behavior improved somehow as well as their performance in class, though they still need a lot of improvement.

Sir Decella gave me lessons to teach. I browsed the curriculum guide and I was surprised since the content on the curriculum guide was finished and I will teach the additional lessons that are not in curriculum guide and not on the textbook. As a future mathematics educator, it is good to have

back-up lessons in case that you finished the contents for the entire year, as long as it suits on the knowledge, relevance and interests of the students.

February 23

I took the opportunity to teach immediately about Law of Tangents.

Instead of presenting the derivation of formulas for law of tangents, I presented the formula immediately since some of the parts of derivation were not yet discussed. I had an example, then I solve together with the students so that they will be engaged too. It's already 30 minutes so I gave the students one more example for them to solve. Then, instead of five-item evaluation, I gave them two-item evaluation (i.e. for both classes) in order for them to have it done within the period. I realized that even though you really want to discuss a chunk of lesson in one period, you cannot do it due to limited time. On that limited time, you need to limit the lesson you will discuss but give the best opportunity for the students to learn that lesson.

February 26

I was one of the proctors during the exam of 9-Woolard and 9-Dewey. While they were taking the exam, Sir made an answer key, then he asked me to verify the answers. So during my vacant time, I verified the answers and then I checked the students' papers. While I was checking I was deciding on how many points I will give on the problem solving. I checked first few papers and I got a bit sad since most of them haven't achieved the passing grade. Out of ten items in the problem solving, they got only two or three items correctly. Based on this experience (as well as experiences on on-campus teaching and teaching in Indonesia), I realized that there must be longer time allotment in problem solving since it takes time to apply the concepts and solve the problem. Second, prepare your answer key ahead of time, double-check the answer keys so that you can save time in checking.

February 27

There are no classes since most of them are having their rehearsals for their upcoming stage show. I continued checking their papers. While I was checking the papers. While I was checking, I became happy that someone passed the test! I was still a bit stressed out since some of the students didn't get the concept and it was evident on the problem solving part. Some used the wrong formula, some have wrong substitution, some just show the answer like magic, etc. I planned to have some sort of remedial class since most of them are failed but my cooperating teacher didn't allow me. Instead, we will continue to the next lesson. I realized that it will be frustrating on the part of the teacher if most of the students will fail on the exam. I felt it even though I only taught last Friday. This is how we feel assessment as, for and of learning. We have to give importance to the assessment.

February 28

I made two lesson plans about cosine and sine of sum and difference of two angles. However, Sir instructed me to teach the two lessons for one day, then I will discuss tangent of sum and difference of two angles on the next day.

I was having second thoughts if I will discuss the derivation because the period is only one hour and students must have longer time to solve. In the end, I chose to discuss the derivation of sine of the sum and difference of two angles based on the cosine just to cope with the one-hour period. Then, on the tangent of the sum and difference, I will also discuss their derivations and give examples. I was experiencing the dilemma of time, amount of lesson to teach and quality of learning for students. I more realized that these are the things to consider and balance when planning the lesson.

March 1

I taught about cosine and sine of the sum and difference of two angles. The class was too quiet so I asked questions and since no one raised their hands, I called someone. There are some questions were the class was answered in chorus but there are some questions wherein only one will only answer.

March 2

I taught about tangent of the sum and difference of two angles. I didn't struggle much since the students already know the formulas for the cosine and sine of the sum and difference of two angles The class was able to remember the concepts. The next challenge that I will have is how to enrich the concepts that they learned aside from doing exercises.

March 5

I taught about cosine and sine of the sum and difference of two angles. In 9-Dewey, they were struggling since they didn't understand by heart the sines and cosines of some special angles. Sir spent time on teaching those values up to the point that there's no time for evaluation. Same in the 9-Woolard but instead of spending the entire period for today's lesson, we discussed about conversion from degrees to radian and vice versa. This reminds me to plan the sequencing of the lesson carefully (though I didn't expect that they didn't tackle the prerequisite knowledge required).

March 6

I continued discussing double-angle. I gave them more exercises. Then, I gave another form of exercise then I immediately gave them evaluation so that they will have more time to answer the items. Actually, they really understand the lesson. Minimize time for presentation (without sacrificing the quality of delivering the lesson) and have adequate time allotted for evaluation.

DOMAIN 2 LEARNING ENVIRONMENT

Strands:

1. Learner safety and security
2. Fair learning environment
3. Management of classroom structure and activities
4. Support for learner participation
5. Promotion of purposive learning
6. Management of learner behavior

REFLECTIONS

Conducive learning environment implies happy learning!

For learner safety and security, it is ideal to have a school environment that is spacious and safe so that the students can freely go around the school, discover the surroundings and talk to their teachers and staff without being nervous.

In having a fair learning environment, make sure that the class is attentive to you. As you discuss, roam around, let the students fell that they are part of the class. Be approachable but not to the point that the students go beyond the boundary line.

In the management of classroom structure and activities, it is important to plan carefully on how you will engage the class. It is not enough that only one or few students will recite to know that the class understands your lesson. As much as possible, let your students move! They don't just learn but they will be engaged too.

In support for learner participation, as much as possible, do not call only those who always recite or who are seated on the front for the others not to be left behind.

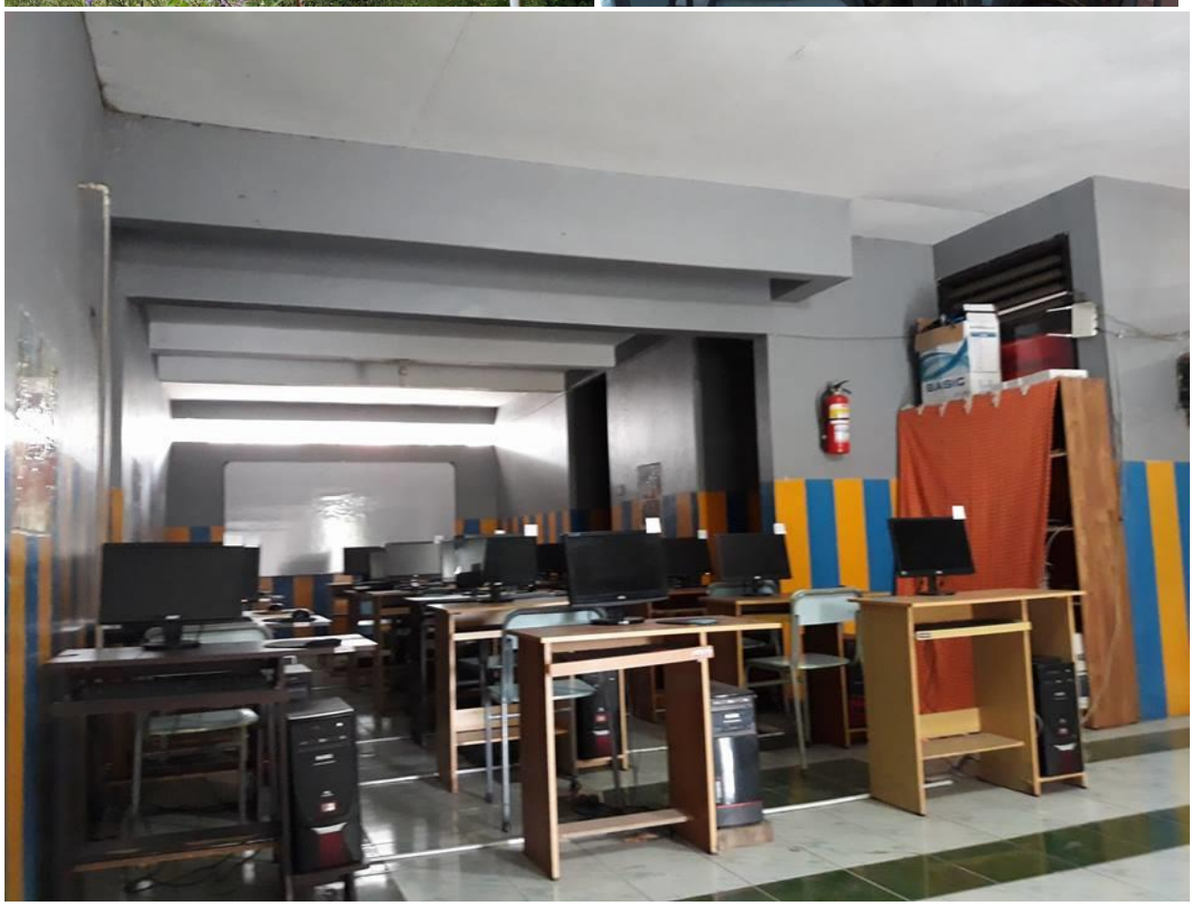
In promotion of purposive learning, have time to talk to your students to know their goals in life so that you can guide them to their journey by teaching lessons that will be relevant to them.

In management of learner behavior, be firm as possible in disciplining unruly students. You can confront them in a nice way but if they do not follow, that's the time that you will be very strict.

EVIDENCES

EVIDENCES

Learning environment in SMP Pelita Nusantara



Classrooms in ITL


THE LORD IS WITHIN YOU

DOMAIN 3 DIVERSITY OF LEARNERS

Strands:

1. Learners' gender, needs, strengths, interests and experiences
2. Learners' linguistic, cultural, socio-economic and religious backgrounds
3. Learners with disabilities, giftedness and talents
4. Learners in difficult circumstances
5. Learners from indigenous groups

REFLECTIONS

Teaching students from cultures different from yours serves as your springboard to discover diversity of learners.

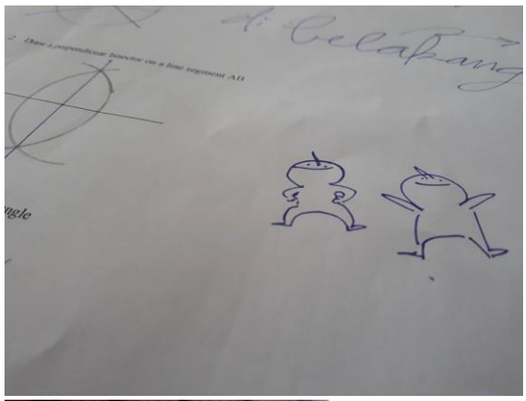
In learners' gender, needs, strengths, interests and experiences, I realized that in spite of their differences in strengths and experiences, they can able to help each other. In spite of the students' differences, there are a lot of similarities in which the students can relate when they tell stories. Promoting friendship in classroom makes the students help each other even outside the classroom.

In learners' linguistic, cultural, socio-economic and religious backgrounds, the students with a good learning environment makes the students have positive camaraderie in spite of differences in religious backgrounds, language, culture and socio-economic status.

In recognizing learners with disabilities, giftedness and talents, learners in difficult circumstances and learners from indigenous groups, make sure you make them part of the class all the time in order for every student to be molded to become better people in the society as well as competent global citizen.

EVIDENCES

Students in Indonesia











Students in ITL


Case Study

Based on PT Form 10

I. Personal Data

a.	**Name of child**	Fhebby F. Tengco
b.	**School**	PNU- Institute of Teaching and Learning
c.	**Home Address**	Malate, Manila
d.	**Grade/Yr. &Section**	9-Dewey
e.	**Age**	14
f.	**Date of Birth**	February 14, 2003

II. Family Background

Father	Truck driver
Mother	Housewife
Socio – eco level of the family	Fair
Language spoken at home	Filipino
Church Affiliation	Iglesia ni Cristo
Marital status of parents:	Living together
Number in the Family:	7
Order of Birth:	5th/ youngest

III. **Statement of the Problem**

What are the factors that affect her underachievement in mathematics?

IV. Examination and Diagnosis

Most of her written outputs (exams and quizzes) have low scores (*See Evidences in Domain 5).* Based on her results in written output, it was evident that she has underachievement in mathematics. Her least enthusiasm in mathematics greatly affects her performance. Based on her interview, Mathematics is her least favorite subject. She also said that low grades didn't affect her, which implies the urge to perform better in mathematics.

V. Treatment/Remedies Applied

There are two treatments applied: Counseling and tutoring. In counseling, this is informally conducted since it was done during vacant time. I let her allow to express her thoughts and share her works so that she could be more confident enough. In tutoring, we spent in a total of four days discussing, reviewing and refining the topics covered in the duration of our practice teaching. The tutoring uses the approach of inquiry-based learning so she can find out her misconceptions and ways to solve.

VI. Evaluation

Based on her performances in tutoring as well as in the last quizzes, she performed better than before. This was evident in her records as well as in her ability to justify.

Anecdotal Record

"You cannot predict the future unless you take action."

A quiet student from Grade 9 Dewey and the youngest among the five children of a delivery truck driver and a housewife.

She walked and rode a jeep when going to school.

During her pastime, she uses Animo, a messenger with specific tags. In her case, she joined in a chat room that has interests in Anime. She also makes blogs about Animo and their community.

She published some of her literary works especially poems in Tumblr.

She showed her handwritten poems and other literary works to me. This year, she wrote 8 poems and by the end of the year, she could have 10 poems.

She has few close friends, only two from her section. (Evita and Lanz)

Every Wednesday, they have their samba in their church because every Thursday, she will accompany her niece.

Math is her least favorite subject because of its difficulty. Based on her, she struggles on equations, drawing and analyzing curves and graphs, mensuration in geometry, as well as in basic concepts on statistics. Nevertheless, geometry is her favorite branch of math since she is fond of shapes. During their recess time, she and her friends help each other in solving math problems.

She spent most of her pastime in her cellphone, watching anime shows

She is close enough to her two brothers and her father.

She has her own nicknames: Jelly because of jelly beans, and Kin, derived from Kin Haru meaning golden spring.

She shared something about one of her watched anime shows entitled Koro Sensei which she can relate it to history, school and life.

About her insights and principles in life, she believes that grades are just grades; the important thing is to achieve your goal in life. According to her, she was bullied due to her weirdness but she didn't mind because that will be the cause of her frustration.

She loves crafting, DIYs and self-defense since she wants to be stronger person.

Few years from now, she wants to be a Values Education teacher. She also wants to have a business or work while pursuing college degree so that she can earn money on her own.

She has low grades but she was not affected.

"You cannot predict the future unless you take action."

Almost everything that happens in your life is based on your own decision. There is no such thing as bad influence.

As lessons in life, she said that when you are down, you have to rise and when you tell a story, it should have sense.

She is frustrated when somebody got her things (especially her personal things) without asking permission. One time, her classmates got her jacket without asking permission and even not giving back to her. She didn't anyway tolerate him/her since anger and hatred will cause her unhappiness in life.

She is more boyish than her brothers.

She is a Math club member but she wants to join Robotics and wants to propose to have a Book club for the students who have interests in reading.

She hates to share private information about her.

DOMAIN 4 CURRICULUM AND PLANNING

Strands:

1. Planning and management of teaching and learning processes
2. Learning outcomes aligned with learning competencies
3. Relevance and responsiveness of learning programs
4. Professional collaboration to enrich teaching practice
5. Teaching and learning resources including ICT

REFLECTIONS

In planning and management of teaching and learning processes, you will always start on considering the context of the students. If the lesson and examples are out of the students' context, they definitely will not understand. Plan your lessons ahead of time and learn to budget the time in activities that the both teachers and students will do. Remember to balance time, quantity of activities that the students will do and quality of learning that they will attain.

In learning outcomes aligned with learning competencies, follow but don't limit the learning competencies that the students should achieve.

In relevance and responsiveness of learning programs, plan your lessons primarily based on the contexts of the students for your lessons to be relevant and responsive.

In professional collaboration to enrich teaching practice, don't be afraid to keep asking to your cooperating teacher or mentor on the strengths and points of improvement in teaching. Don't be afraid to suggest on ways for the students to learn better even though you're a novice teacher.

In teaching and learning resources including ICT, since students now are technology savvy, give them a carry-on activity that will use ICT. Exclusion of ICT in teaching and learning will make your class boring; students will be sleepy, waiting for you to finish the lesson.

Overall, plan your lessons carefully and ahead of time, seek help from the experts and authority, voice out suggestions to contribute on your professional collaboration and as much as possible, incorporate the use of ICT in your lessons appropriately.

EVIDENCES

K to 12 BASIC EDUCATION CURRICULUM

Figure 1.The Conceptual Framework of Mathematics Education

K to 12 BASIC EDUCATION CURRICULUM

GRADE LEVEL	GRADE LEVEL STANDARDS
	10 000 000, order of operations, factors and multiples, fractions and decimals including money, ratio and proportion, percent); geometry (polygons, circles, solid figures); patterns and algebra (sequence and number sentences); measurement (time, circumference, area, volume, and temperature); and statistics and probability (tables, line graphs and experimental probability) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 6	The learner demonstrates understanding and appreciation of key concepts and skills involving numbers and number sense (divisibility, order of operations, fractions and decimals including money, ratio and proportion, percent, integers); geometry (plane and solid figures); patterns and algebra (sequence, expression, and equation); measurement (rate, speed, area, surface area, volume, and meter reading); and statistics and probability (tables, pie graphs, and experimental and theoretical probability) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 7	The learner demonstrates understanding of key concepts and principles of numbers and number sense (sets and real number system); measurement (conversion of units of measurement);patterns and algebra (algebraic expressions and properties of real numbers as applied in linear equations and inequalities in one variable); geometry (sides and angles of polygons); and statistics and probability (data collection and presentation, and measures of central tendency and variability) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 8	The learner demonstrates understanding of key concepts and principles of patterns and algebra (factors of polynomials, rational algebraic expressions, linear equations and inequalities in two variables, systems of linear equations and inequalities in two variables); geometry (axiomatic structure of geometry, triangle congruence, inequalities in a triangle, and parallel and perpendicular lines); and statistics and probability (probability of simple events) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 9	The learner demonstrates understanding of key concepts and principles of patterns and algebra (quadratic equations and inequalities, quadratic functions, rational algebraic equations, variations, and radicals) and geometry (parallelograms and triangle similarities and basic concepts of trigonometry) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.
GRADE 10	The learner demonstrates understanding of key concepts and principles of patterns and algebra (sequences, series, polynomials, polynomial equations, and polynomial functions); geometry (circles and coordinate geometry); and statistics and probability (combinatorics and probability, and measures of position) as applied - using appropriate technology - in critical thinking, problem solving, reasoning, communicating, making connections, representations, and decisions in real life.

Time Allotment:

Grade	1	2	3	4	5	6	7	8	9	10

SILABUS PEMBELAJARAN

Satuan Pendidikan : SMP Pelita Nusantara
Mata Pelajaran : MATEMATIKA
Kelas : VII
Semester : 2 (Dua)
Tahun Pelajaran : 2017 – 2018

KI	KD	IPK	MATERI PEMBELAJARAN	KEGIATAN PEMBELAJARAN	RENCANA PENILAIAN	ALOKASI WAKTU	SUMBER BELAJAR
3. Memahami pengetahuan (faktual,konseptual, dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata 4. Mencoba, mengolah, dan menyaji dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut pandang/teori	3.11 Menganalisis aritmetika sosial (penjualan, pembelian, potongan, keuntungan, kerugian, bunga tunggal, persentase, bruto, neto,tara)	3.11.1 Mengenal fenomena atau aktivitas yang terkait dengan aritmetika social (penjualan, pembelian, potongan, keuntungan, kerugian, bunga tunggal, persentase, bruto, neto, tara) 3.11.2 Mendapatkan informasi yang terkait dengan artimetika sosial 3.11.3 Menentukan hubungan antara penjualan, pembelian, untung,dan rugi 3.11.4 Menentukan bunga tunggal dan pajak 3.11.5 Menentukan hubungan antara, bruto, neto, dan tara	1. Pengertian Harga penjualan dan pembelian 2. Keuntungan, kerugian, dan impas 3. Perhitungan Persentase untung dan rugi 4. Perhitungan Diskon 5. Perhitungan Pajak 6. Bruto, tara, dan netto 7. Bunga tunggal	1. Mencermati kegiatan-kegiatan sehari-hari berkaitan dengan transaksi jual beli, kondisi untung, rugi, dan impas 2. Mencermati cara menentukan diskon dan pajak dari suatu barang 3. Mengamati konteks dalam kehidupan di sekitar yang terkait dengan bruto, netto, dan tara 4. Mengumpulkan informasi tentang cara melakukan manipulasi aljabar terhadap permasalahan sehari-hari yang berkaitan dengan artimetika social 5. Menyajikan hasil pembelajaran tentang aritmetika social 6. Memecahkan masalah yang berkaitan dengan aritmetika sosial	PENILIAN PENGETAHUAN; 1.Berupa tes tertulis dengan soal pilihan ganda dan uraian 2.Berupa tugas-tugas/pekerjaan rumah PENILAIAN KETERAMPILAN Berupa pengerjaan tugas sesuai dengan konsep KETERAMPILAN PROYAK Berupa tugas kelompok	4 x 40 Menit (2 x Pertemuan)	✦ Teks Siswa, ✦ Buku Pegangan Guru, ✦ Modul/bahan ajar, ✦ Sumber internet, ✦ Sumber lain yang relevan
	4.11 Menyelesaikan masalah berkaitan dengan aritmetika social (penjualan, pembelian,	4.11.1 Memecahkan masalah terkait dengan artimetika social baik melalui Tanya jawab, diskusi, atau, presentasi.				2 x 40 Menit (1 x Pertemuan)	

	potongan, keuntungan, kerugian, bunga tunggal, persentase, bruto, neto, tara)						

Mengetahui
Kepala Sekolah

Tantan Rustandi, S.Pd
NIK. 50120985

Bandung, 17 Juli2017
Guru Mata Pelajaran

Dian Ekasari, S.Pd
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SILABUS PEMBELAJARAN

Satuan Pendidikan : SMP Pelita Nusantara
Mata Pelajaran : MATEMATIKA
Kelas : VII
Semester : 2 (Dua)
Tahun Pelajaran : 2017 – 2018

KI	KD	IPK	MATERI PEMBELAJARAN	KEGIATAN PEMBELAJARAN	RENCANA PENILAIAN	ALOKASI WAKTU	SUMBER BELAJAR
3. Memahami pengetahuan (faktual,konseptual, dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata 4. Mencoba, mengolah, dan menyaji dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut pandang/teori	3.12 Menjelaskan sudut, jenis sudut, hubungan antar sudut, cara melukis sudut, membagi sudut, dan membagi garis.	3.12.1 Memahami dan menjelaskan hubungan antar garis 3.12.2 Menjelaskan kedudukan dua garis (sejajar, berhimpit, berpotongan)melalui benda kongkrit 3.12.3 Membagi garis menjadi beberapa bagian sama panjang 3.12.4 Mengukur besar sudut dengan busur derajat 3.12.5 Menjelaskan perbedaan jenis sudut (siku, lancip, tumpul) 3.12.6 Melukis sudut yang besarnya sama dengan yang diketahui 3.12.7 Membagi sudut menjadi dua sama besar 3.12.8 Menentukan sudut berpelurus dan berpenyiku	1. Pengertian Garis 2. Kedudukan garis 3. Membagi garis 4. Perbandingan ruas garis 5. Pengertian sudut 6. Jenis-jenis sudut 7. Hubungan antar sudut 8. Melukis sudut	1. Mencermati model gambar atau objek yang menyatakan titik, garis, bidang, atau sudut 2. Mencermati permasalahan sehari – hari yang berkaitan dengan penerapan garis dan sudut 3. Mencermati kedudukan dua garis, jenis-jenis sudut, hubungan antar sudut 4. Mencermati sudut-sudut yang terbentuk dari dua garis yang dipotong oleh garis transversal 5. Mencermati cara melukis dan membagi sudut menggunakan jangka	PENILIAN PENGETAHUAN; 1.Berupa tes tertulis dengan soal pilihan ganda dan uraian 2.Berupa tugas-tugas/pekerjaan rumah PENILAIAN KETERAMPILAN Berupa pengerjaan tugas sesuai dengan konsep KETERAMPILAN PROYAK Berupa tugas kelompok	4 x 40 Menit (2 x Pertemuan)	✦ Teks Siswa, ✦ Buku Pegangan Guru, ✦ Modul/bahan ajar, ✦ Sumber internet, ✦ Sumber lain yang relevan
	4.12 Menyelesaikan masalah yang berkaitan dengan sudut dan garis	4.12.1 Menggunakan sifat-sifat sudut dan garis untuk menyelesaikan soal				2 x 40 Menit (1 x Pertemuan)	

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SILABUS PEMBELAJARAN

Satuan Pendidikan : SMP Pelita Nusantara
Mata Pelajaran : MATEMATIKA
Kelas : VIII
Semester : 2 (Dua)
Tahun Pelajaran : 2017 – 2018

KI	KD	IPK	MATERI PEMBELAJARAN	KEGIATAN PEMBELAJARAN	RENCANA PENILAIAN	ALOKASI WAKTU	SUMBER BELAJAR
3. Memahami pengetahuan (faktual,konseptual, dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata 4. Mencoba, mengolah, dan menyaji dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut	3.8 Menjelaskan garis singgung persekutuan luar dan persekutuan dalam dua lingkaran dan cara melukisnya	3.8.1 Menemukan pengertian garis singgung lingkaran 3.8.2 Menemukan sifat-sifat garis singgung lingkaran 3.8.3 Melukis garis singgung lingkaran melalui satu titik di luar lingkaran 3.8.4 Melukis garis singgung persekutuan dalam lingkaran 3.8.5 Melukis garis singgung persekutuan luar lingkaran	1. Menentukan Garis singgung persekutuan dalam dua lingkaran 2. Menentukan Garis	1. Mencermati cara melukis garis singgung lingkaran dan garis singgung persekutuan antara dua lingkaran menggunakan jangka dan penggaris 2. Menyajikan hasil pembelajaran tentang lingkaran dan garis singgung lingkaran 3. Menyelesaikan masalah yang berkaitan dengan lingkaran dan garis singgung lingkaran	PENILIAN PENGETAHUAN; 1.Berupa tes tertulis dengan soal pilihan ganda dan uraian 2.Berupa tugas-tugas/pekerjaan rumah PENILAIAN KETERAMPILAN Berupa pengerjaan tugas sesuai dengan konsep KETERAMPILAN PROYAK Berupa tugas kelompok	4 x 40 Menit (2 x Pertemuan)	✦ Teks Siswa, ✦ Buku Pegangan Guru, ✦ Modul/bahan ajar, ✦ Sumber internet, ✦ Sumber lain yang relevan
	4.8 Menyelesaikan masalah yang berkaitan dengan garis singgung persekutuan luar dan persekutuan dalam dua lingkaran	4.8.1 Menyelesaikan masalah yang berkaitan dengan garis singgung lingkaran melalui satu titik di luar lingkaran 4.8.2 Menentukan panjang garis singgung persekutuan dalam lingkaran 4.8.3 Menentukan panjang garis singgung persekutuan luar lingkaran				4 x 40 Menit (2 x Pertemuan)	

pandang/teori							

Mengetahui
Kepala Sekolah

Tantan Rustandi, S.Pd
NIK. 50120985

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Guru Mata Pelajaran

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NIK. 130101690

SILABUS PEMBELAJARAN

Satuan Pendidikan : SMP Pelita Nusantara
Mata Pelajaran : MATEMATIKA
Kelas : VIII
Semester : 2 (Dua)
Tahun Pelajaran : 2017 – 2018

KI	KD	IPK	MATERI PEMBELAJARAN	KEGIATAN PEMBELAJARAN	RENCANA PENILAIAN	ALOKASI WAKTU	SUMBER BELAJAR
3. Memahami pengetahuan (faktual,konseptual, dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata 4. Mencoba, mengolah, dan menyaji dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut	3.9 Membedakan dan menentukan luas permukaan dan volume bangun ruang sisi datar (kubus, balok, prisma, dan prisma)	3.9.1 Menentukan unsur-unsur kubus, balok, prisma dan limas. 3.9.1 Menentukan luas permukaan kubus dan balok dengan menggunakan alat peraga berupa benda nyata. 3.9.3 Menentukan luas permukaan prisma yang didapat dari penurunan rumus luas permukaan balok. 3.9.4 Menentukan luas permukaan limas dengan syarat-syarat ukuran yang harus diketahui 3.9.5 Menentukan volume kubus dan balok melalui pola tertentu sehingga bisa diterapkan pada volume prisma dan limas.	1. Pengertian Kubus, balok, prisma, dan limas 2. Jaring-jaring: kubus, balok, prisma, dan limas 3. Menentukan Luas permukaan: kubus, balok, prisma, dan limas 4. Menentukan Volume: kubus, balok, prisma, dan limas 5. Menaksir volume bangun ruang tak beraturan 6. Masalah sehari-hari yang berhubungan dengan bangun ruang sisi datar	1. Mencermati model atau benda di sekitar yang merepresentasikan bangun ruang sisi datar 2. Melakukan percobaan untuk menemukan jari-jari bangun ruang sisi datar 3. Melakukan percobaan untuk menemukan rumus luas permukaan dan volume bangun ruang sisi datar 4. Menyajikan hasil pembelajaran tentang bangun ruang sisi datar 5. Menyelesaikan masalah yang berkaitan dengan bangun ruang sisi datar	PENILIAN PENGETAHUAN; 1.Berupa tes tertulis dengan soal pilihan ganda dan uraian 2.Berupa tugas-tugas/pekerjaan rumah PENILAIAN KETERAMPILAN Berupa pengerjaan tugas sesuai dengan konsep KETERAMPILAN PROYAK Berupa tugas kelompok	6 x 40 Menit (3 x Pertemuan)	✦ Teks Siswa, ✦ Buku Pegangan Guru, ✦ Modul/bahan ajar, ✦ Sumber internet, ✦ Sumber lain yang relevan
	4.9 Menyelesaikan masalah yang berkaitan dengan luas permukaan dan volume bangun ruang sisi datar (kubus,	4.9.1 Menaksir dan menghitung luas permukaan dan volume bangun ruang yang tidak beraturan dengan menerapkan geometri dasarnya				4 x 40 Menit (2 x Pertemuan)	

pandang/teori	balok, prima dan limas), serta gabungannya	melalui ilustrasi yang ditunjukkan					

Mengetahui
Kepala Sekolah

Tantan Rustandi, S.Pd
NIK. 50120985

Bandung, 17 Juli2017
Guru Mata Pelajaran

Dian Ekasari, S.Pd
NIK. 130101690

I. TOPIC: Social Arithmetic
SUBTOPICS: Computing the Overall value, value per unit, purchase price, profit and loss
REFERENCES:
Salamah, U. (2017). *Berlogica dengan Matematika 2.*
www.edugain.com

MATERIALS: Board markers

II. OBJECTIVES

In the duration of the period, the students should be able to:

A. Demonstrate knowledge on concepts of overall value, value per unit, purchase price, profit and loss;
B. Solve for overall value, value per unit, purchase price, profit and loss of given real-life examples; and
C. Manifest active participation

III. STRATEGY

A. Inquiry-based learning
B. Lecture and discussion

IV. PROCEDURE

A. Daily routines

B. Lesson Proper

1. Motivation
   Whenever we go to the marketplaces, we encounter prices, discounts etc. How can we determine if an item we want to buy is expensive or cheap? If there are discounts, how much do we save? For example, you buy a number of shirts that cost Rp30000 each and you will sell at Rp35000, how much profit you will gain?

2. Development
   For example, a child buys one dozen of pens that costs Rp30000. This implies that each pen costs Rp2500. Rp30000 in the example is called the *overall price* while the Rp2500 is called the *price per unit*. Price per unit is obtained through getting the quotient of the overall price and the quantity of the item.

$$Price\ per\ unit = \frac{Overall\ price}{Quantity}$$

Purchase price is the price of the item when it is bought.

Selling price is the price of an item upon selling.

Profit is the value gained from selling a certain number of items. This is obtained through subtracting the purchase price from the selling price.

$$Profit = Selling\ price - Purchase\ price$$

Loss is the value that is lost from selling a certain number of items. This is obtained through subtracting the selling price from the purchase price.

$$Loss = Purchase\ price - Selling\ price$$

Percentage of Profit

$$Percentage\ of\ Profit = \frac{Profit}{Purchase\ Price} * 100$$

Percentage of Loss

$$Percentage\ of\ Loss = \frac{Loss}{Purchase\ Price} * 100$$

Examples:

a. A rim of bond paper (500 sheets) costs Rp25000. How much is each sheet?

The overall price of the bond paper is Rp25000 and the quantity of bond paper is one rim which is 500 sheets. We wish to find the price of each sheet of bond paper.

$$Price\ per\ unit = \frac{Overall\ price}{Quantity}$$
$$Price\ per\ unit = \frac{Rp25000}{500}$$
$$Price\ per\ unit = Rp500$$

Therefore, each sheet of bond paper costs **Rp500**.

b. One pack of milk costs Rp8500. How much will be if I buy eight packs of milk, how much will I pay?

$$Price\ per\ unit = \frac{Overall\ price}{Quantity}$$
$$Overall\ Price = Price\ per\ Unit * Quantity$$
$$Overall\ Price = Rp8500 * 8$$
$$Overall\ Price = Rp68000$$

Therefore, eight packs of milk cost **Rp68000**.

c. A perfume was bought at Rp157800. If the buyer of this perfume to immediately sell for Rp180000, how much will be the profit?

$$Profit = Selling\ price - Purchase\ price$$
$$Profit = Rp157800 - Rp180000$$
$$Profit = Rp22200$$

Therefore, the profit will be **Rp22200. (The buyer gained 14.1% profit)**

d. Mr. Tarto bought a bicycle that costs Rp3160000. After five months, due to the need of money, he sold at Rp2376000. How much is Mr. Tarto's loss?

$$Loss = Purchase\ price - Selling\ price$$
$$Loss = 3160000 - 2376000$$
$$Loss = 784000$$

Therefore, Mr. Tarto's loss is **Rp784000. (Mr. Tarto losed 24.8% of the purchase price)**

3. Application

   a. Two dozens of glasses costs Rp96000. How much is each glass? **Rp4000**
   b. One notebook costs Rp3500 and one pen costs Rp4500. What is the overall price if I buy two dozen of notebooks and four dozens of pen? **Rp350000**
   c. A shopkeeper buys 15 rackets for Rp46500. If he sells them for a profit of 20%, find the selling price of one racket. **Rp3720**
   d. If the selling price of a certain item is Rp276250, find the purchase price if: (1) it has a profit of Rp 112750; (2) it has a loss of Rp93475. **Rp163500; Rp369275**

4. Generalization

   Price per unit is the quotient of overall price and quantity of a certain item.
   Purchase price is the price of the item when it is bought.
   Selling price is the price of an item upon selling.
   Profit is the value gained from selling a certain number of items. This is obtained through subtracting the purchase price from the selling price.

$$Profit = Selling\ price - Purchase\ price$$

   Loss is the value that is lost from selling a certain number of items. This is obtained through subtracting the selling price from the purchase price.

$$Loss = Purchase\ price - Selling\ price$$

   Percentage of Profit

$$Percentage\ of\ Profit = \frac{Profit}{Purchase\ Price} * 100$$

   Percentage of Loss

$$Percentage\ of\ Loss = \frac{Loss}{Purchase\ Price} * 100$$

5. Evaluation

   Answer the following:

   - *Evaluasi Mandiri 1 on page 204, items 8-10*
   - *Evaluasi Mandiri 2 on page 207, items 5-8*

I. TOPIC: Social Arithmetic
SUBTOPICS: Tax and Discount
REFERENCES:

Salamah, U. (2017). *Berlogica dengan Matematika 2.*
Taxes & Discounts: Calculations & Examples. (n.d.). Retrieved from https://study.com/academy/lesson/taxes-discounts-calculations-examples.html
Discount and Sale Price. (n.d.). Retrieved from https://www.mathgoodies.com/lessons/percent/sale_price

MATERIALS: Board markers

II. OBJECTIVES

In the duration of the period, the students should be able to:

A. demonstrate knowledge on concepts of tax and discounts;
B. solve for the total price inclusive of tax, discount and discounted price on given examples; and
C. manifest skepticism.

III. STRATEGY

A. Inquiry-based learning
B. Lecture and discussion

IV. PROCEDURE

A. Daily routines

B. Drill /Review
   a. The teacher will review on the concepts of overall price and price per unit.

C. Lesson Proper

1. Motivation
   If we go the stores, we see discounts wherein we will buy items at a lower price. In restaurants and services, we do not only pay the amount based on the menu book. We still need to pay value-added tax which is usually 10%. Upon looking on those situations, we can determine how much money we need to bring and budget our money to buy several items.

2. Development
   Tax, in general sense, is the money for the common good of the country. This is usually got from incomes, real estate properties and services that we avail. It an added fee from the actual price.

$$Total\ Price = Original\ Price + Tax$$

Discount is price that is removed from the actual price.

$$Discounted\ price = Actual\ price - Discount$$

Examples:

Tax

a. Karena ordered a Nasi goreng bakso for Rp 11000. Aside from paying the price, she needs to pay additional 10% of the price for the tax. What is the total price Karena should pay? **P12100**

$$Total\ Price = Original\ Price + Tax$$
$$Total\ Price = Rp11000 + Rp11000 * 0.1$$
$$Total\ Price = Rp11000 + Rp1100$$
$$Total\ Price = Rp12100$$

b. Michael ordered a burger steak in Jollibee that costs P88.40. How much he should pay if 12% tax is included? **P99.00**

$$Total\ Price = Original\ Price + Tax$$
$$Total\ Price = P88.40 + P88.40 * 0.12$$
$$Total\ Price = P88.40 + P10.608$$
$$Total\ Price = P99.008$$
$$Total\ Price = P99.00$$

Discount

a. Mitch, a student from PNU, rode a jeepney which costs P15.00 from her home to school. Since there's 20% student discount, how much she will pay?

$$Discounted\ price = Actual\ price - Discount$$
$$Discounted\ price = P15.00 - P15.00 * 0.2$$
$$Discounted\ price = P15.00 - P3.00$$
$$Discounted\ price = P12.00$$

Therefore, Mitch will pay only P12.00.

b. I bought four bottles of water worth Rp 3500 each bottle. Instead of paying the total price, I only paid Rp 10000. How much discount did I save?

$$Discounted\ price = Actual\ price - Discount$$
$$Discount = Actual\ price - Discounted\ price$$
$$Discount = Rp3500 * 4 - 10000$$
$$Discount = Rp14000 - 10000$$
$$Discount = Rp4000$$

Therefore, I saved Rp4000 (that is 28.6% of the actual price).

More examples will be given to the students.

3. Application
   a. Seorang ordered Mie Baso at a restaurant that costs Rp17000. How much she should pay if she needs to pay 10%? **Rp18700**
   b. Natividad bought a chicken inasal that costs P89.29. How much she should pay if 12% tax is included? **P100**
   c. Sammy ordered Nasi Kampung and milk shake at an eatery that costs Rp10000 and Rp12000 respectively. That day, she ate with a big group of friends and fortunately, there was a group discount which is 10%. How much did she pay? **Rp19800**
   d. Juanito watched a movie that costs P260.00. In the movie theater, there is 20% discount for senior citizens. If Juanito is a senior citizen, how much he will pay? **Rp208**

   More exercises will be given to the students.

4. Generalization

Tax, in general sense, is the money for the common good of the country. This is usually got from incomes, real estate properties and services that we avail. It an added fee from the actual price.

$$Total\ Price = Original\ Price + Tax$$

Discount is price that is removed from the actual price.

$$Discounted\ price = Actual\ price - Discount$$

5. Evaluation

Answer Evaluasi Mandiri 4 page 213 , items 3-6.

I. TOPIC: Tangents of Circles

SUBTOPICS: Properties of Tangents of Circles, Lengths of the Tangents of a Circle, Tangents of Two Circles

REFERENCES:

Circle Theorems. (n.d.). Retrieved from https://revisionmaths.com/gcse-maths-revision/shape-and-space/circle-theorems

Properties of Tangents. (n.d.). Retrieved from www.khanacademy.com

Salamah, U. (2017). *Berlogica dengan Matematika 2.*

MATERIALS: Board markers

II. OBJECTIVES

In the duration of the one-hour and 20-minute period, the students should be able to:

A. Demonstrate knowledge on the properties and the theorem of the tangents of circle;
B. Solve the length of the tangent of the given circles
C. Manifest active participation

III. STRATEGY

A. Inquiry-based learning
B. Lecture and discussion

IV. PROCEDURE

A. Daily routines

B. Drill /Review

The teacher will review on the parts of the circles.

C. Lesson Proper

1. Motivation

The teacher will present motorcycle gear, pulleys and other situations related to the tangents of the circles.

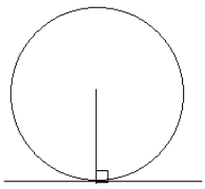
2. Development

Teacher will illustrate a tangent of the circle on the board, and then the students will describe it.

Tangent of a circle is a line that intersects the circle at exactly one point.

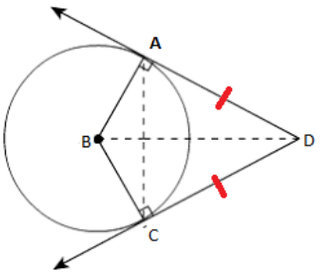
Properties of tangent

- The tangent of a circle intersects the circle only at one point.
- The tangent if a circle is perpendicular to the radius drawn through its tangent point.

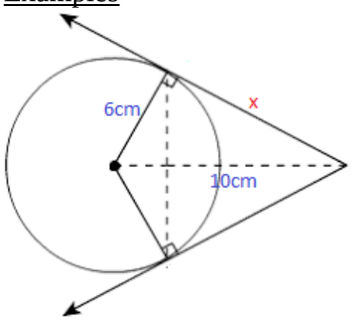


- Through a point on the circle made exactly one tangent line.

Given that there are two tangents of the circle intersected at an external point, the lengths of the two tangents will be the same.

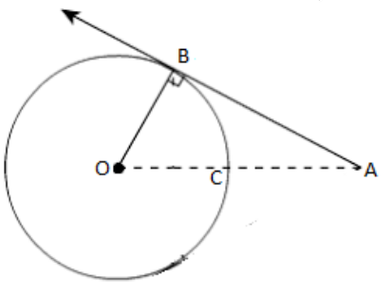


Examples



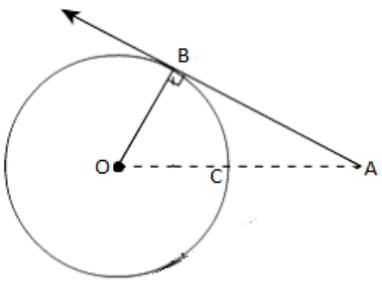
$$6^2 + x^2 = 10^2$$
$$x^2 = 10^2 - 6^2$$
$$x^2 = 100 - 36$$
$$x^2 = 64$$
$$x = \mathbf{8cm}$$

If AB=16m and OA=20m, what is OC?



$$OA^2 = OB^2 + AB^2$$
$$OB^2 = OA^2 - AB^2$$
$$OB^2 = 20^2 - 16^2$$
$$OB^2 = 400 - 256$$
$$OB^2 = 144$$
$$OB = 12$$
$$\boldsymbol{OC = 12}$$

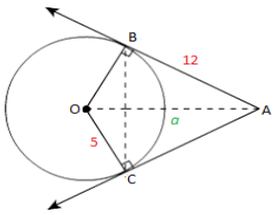
Find AC if OB=7 and AB=24



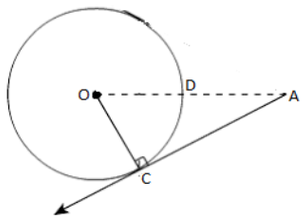
$$OA^2 = OB^2 + AB^2$$
$$OA^2 = 7^2 + 24^2$$
$$OA^2 = 49 + 576$$
$$OA^2 = 625$$
$$OA = 25$$
$$OC + AC = 25$$
$$OB + AC = 25$$
$$7 + AC = 25$$
$$\boldsymbol{AC = 18}$$

3. Application
   Find OA.

$$OA = \mathbf{13}$$

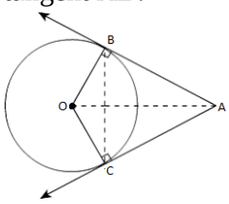


If DA=10 and CA=20, what is OA? $OA = \mathbf{25}$



If BC=48cm, OC=30cm and the area of kite ABOC is $1200cm^2$, find OA and length of tangent AB.

OA=**50cm**
AB=**40cm**



4. Generalization

Tangent of a circle is a line that intersects the circle at exactly one point.

Properties of tangent

- The tangent of a circle intersects the circle only at one point.
- The tangent if a circle is perpendicular to the radius drawn through its tangent point.
- Through a point on the circle made exactly one tangent line.

Given that there are two tangents of the circle intersected at an external point, the lengths of the two tangents will be the same.

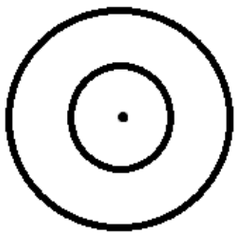
5. Evaluation

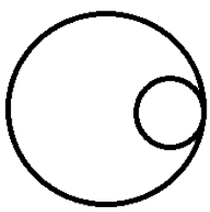
Answer the following on the textbook:

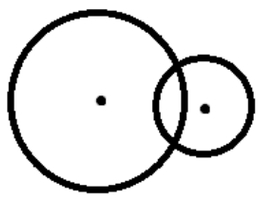
- *Page 213, items 1-3, 5,*
- *Page 215, items 6*

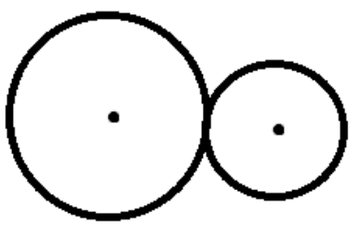
V. **AGREEMENT**

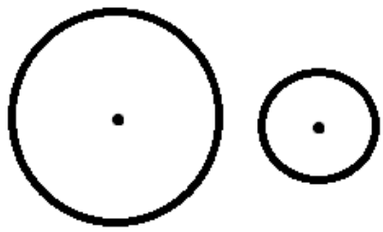
How many common tangents can you draw on the following figures?

1. 

2. 

3. 

4. 

5. 

I. TOPIC: Cubes and Blocks
SUBTOPICS: Face Diagonals and Space Diagonals of Cubes and Blocks
REFERENCES:
Properties of Tangents. (n.d.). Retrieved from www.khanacademy.com
Salamah, U. (2017). *Berlogica dengan Matematika 2.*

MATERIALS: Board markers, boxes

II. OBJECTIVES

In the duration of the one-hour and 20-minute period, the students should be able to:

A. demonstrate knowledge on concepts of face diagonal and space diagonal;
B. solve for the measures of face diagonals and space diagonals on given examples; and
C. manifest active participation.

III. STRATEGY

A. Inquiry-based learning
B. Lecture and discussion

IV. PROCEDURE

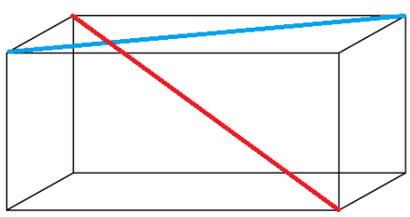
A. Daily routines

B. Drill /Review
Diagonal of a Polygon is a segment whose endpoints are two nonconsecutive vertices.

C. Lesson Proper

1. Motivation
Students will draw cubes and blocks on the board and they will distinguish the similarities and differences of them.

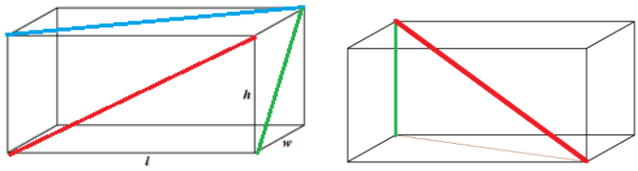
2. Development
Face diagonal is a diagonal drawn in one of the faces of the cube or block.
Space diagonal is a diagonal passing through the space between vertices.



In the figure, the blue segment is a face diagonal while the red segment is a space diagonal.

The students draw other face diagonals and space diagonals.

Measures of Face Diagonal and Space Diagonal



Using the concept of Pythagorean theorem, the measures of the face diagonals are expressed as: $\sqrt{l^2 + w^2}$, $\sqrt{l^2 + h^2}$ and $\sqrt{w^2 + h^2}$.

In addition, the measures of the space diagonals are expressed as $\sqrt{(l^2 + w^2 + h^2)}$

Examples:

Find the face diagonals and the diagonal of the block or cube if:

a. l=3, w=4, h=5

Face diagonals: 5, $\sqrt{41}$, $\sqrt{34}$

Space diagonal: $5\sqrt{2}$

b. l=3, w=4, h=4

Face diagonals: 5, 5, $4\sqrt{2}$

Space diagonal: $\sqrt{41}$

c. *s=5*

Face diagonals: $5\sqrt{2}$

Space diagonal: $5\sqrt{3}$

3. Application

In each given set of dimensions of block or cube, find the measures of the face diagonals and space diagonals.

a. l=3, w=2, h=4

Face diagonals: 5, $\sqrt{41}$, $\sqrt{34}$

Space diagonal: $5\sqrt{2}$

b. l=5, w=5, h=3

Face diagonals: $5\sqrt{2}$, $\sqrt{34}$, $\sqrt{34}$

Space diagonal: $\sqrt{59}$

c. s=3

Face diagonals: $3\sqrt{2}$

Space diagonal: $3\sqrt{3}$

4. Generalization

Face diagonal is a diagonal drawn in one of the faces of the cube or block.

Space diagonal is a diagonal passing through the space between vertices.

The measures of the face diagonals are expressed as $\sqrt{l^2 + w^2}$, $\sqrt{l^2 + h^2}$ and $\sqrt{w^2 + h^2}$.

The measures of the space diagonals are expressed as $\sqrt{(l^2 + w^2 + h^2)}$.

5. Evaluation

In each given set of dimensions of block or cube, find the measures of the face diagonals and space diagonals.

d. l=2, w=3, h=5

Face diagonals: $\sqrt{13}$, $\sqrt{34}$, $\sqrt{29}$

Space diagonal: $\sqrt{38}$

e. l=3, w=4, h=6
Face diagonals: 5, $2\sqrt{13}$**,** $3\sqrt{5}$
Space diagonal: $\sqrt{61}$

f. l=3, w=2, h=3
Face diagonals: $\sqrt{13}$**,** $\sqrt{13}$**,** $3\sqrt{2}$
Space diagonal: $\sqrt{22}$

g. s=7
Face diagonals: $7\sqrt{2}$
Space diagonal: $7\sqrt{3}$

Week beginning: 1			UNIT:			CLASS:	
Timing	Frame-work Ref:	Learning Objectives	Success Criteria	Activities (see notes below re: differentiation details, etc) W: whole class; G: group; I: individual.		Resources	Evidence of achievement
				Description	W/G/I		
1 x 40	**7Gp2**	Transform 2D points and shapes by: – reflection in a given line – rotation about a given point – translation Know that shapes remain congruent after these transformations.	The students will show the reflected, rotated and translated images on the given exercises.	Teacher will facilitate for the students to have an input about reflection, translation and rotation of 2D shapes. On discussing reflection, the students will draw the mirror image of the given examples. On discussing rotation, the students will show their book and rotate it as the teacher instructed. On discussing translation, Teacher will let them form a figure by themselves	W	Coursebook Internet	**Q&A**: question / answer

				(positioning themselves on the tiles) and move together as instructed. Students will do exercises.			**D**: discussion **O**: observation **M**: marked work
Organisation: details of differentiation / groups / adult role (linked to activities)				Notes / extension opportunities / homework			
				Answer the following: Exercise 17.1 items 1 to 3 (page 163) Exercise 17.2 items 1 to 5 (page 165) Exercise 17.3 items 1 to 3 (page 166-167)			

Short-term planning template

Week beginning: 2			UNIT:			CLASS:	
Timing	Frame-work Ref:	Learning Objectives	Success Criteria	Activities (see notes below re: differentiation details, etc) W: whole class; G: group; I: individual.		Resources	Evidence of achievement
				Description	W/G/I		
2 x 40	**7Db1** **7Db2** **7Db3** **7Db4**	**Use the language of probability to describe and interpret** **results involving likelihood and chance.** **Understand and use the probability scale from 0 to 1.** **Find probabilities based on equally likely outcomes in simple contexts.** **Identify all the possible mutually exclusive outcomes of a**	The students must find the probability of equally likely outcomes and mutually exclusive outcomes of a single event through given examples.	Students will have an activity wherein one will face the class, close his eyes, the rest will change their seating position, and he will point a person and determine if the person he pointed is a boy or a girl. Teacher will discuss some real-life situations where probability is applied. Teacher will discuss the probability scale, equally likely outcomes and mutually exclusive outcomes.	W	Coursebook Internet	**Q&A**: question / answer

Short-term planning template

		single event.		Students will also give examples and they will answer exercises. (Exercise 16.2, page 154 items 1-4)			**D**: discussion **O**: observation **M**: marked work
Organisation: details of differentiation / groups / adult role (linked to activities)				Notes / extension opportunities / homework			
				Answer Exercise 16.2, page 154 items 5-8			

Notes:

- *The plan can be formatted to view a week at a time and not every lesson – this is important to support manageability.*
- *Most of the plan is self-explanatory. It seeks to include most of the desirable elements. The format can be expanded to A3 but remember the detail required will often be brief.*
- *Class organisation is crucial to the plan working properly including differentiation and the role of additional adults. Plans can be shared to make expectations clear.*
- *Success Criteria:*

  These are an essential part of planning and should be clear and manageable.

  These may be part of active assessment activities where students determine the criteria. In planning, teachers need to write a broad outline of anticipated suggestions.

Short-term planning template

Cambridge Secondary 1

Week beginning: 1			UNIT:			CLASS:	
Timing	Frame-work Ref:	Learning Objectives	Success Criteria	Activities (see notes below re: differentiation details, etc) W: whole class; G: group; I: individual.		Resources	Evidence of achievement
				Description	W/G/I		
3 x 40	8Db1 8Db2 8Db3 8Db4	• **Know that if the probability of an event occurring is p, then the probability of it not occurring is 1 – p.** **•Find probabilities based on equally likely outcomes in practical contexts.** • **Find and list systematically all possible mutually exclusive outcomes for single events and**	The students must find the probability of an event that will not occur, equally likely outcomes and theoretical probability and experimental probability of event through given examples.	Teacher will let them review on the concepts of probability based on what they have learned on their 7th grade. Teacher will discuss about probability of an event that will not occur and equally likely outcomes. Students will do exercises based on those concepts.	W	Coursebook Internet	

Short-term planning template

		for two successive events. • **Compare estimated experimental probabilities with theoretical** **probabilities, recognising that:** **– when experiments are repeated different outcomes may result** **– increasing the number of times an experiment is repeated** **generally leads to better estimates of probability**		Students will have an activity wherein they will spin their pen Teacher will introduce experimental probability and theoretical probability. Students will do exercises.			**Q&A**: question / answer **D**: discussion **O**: observation **M**: marked work
Organisation: details of differentiation / groups / adult role (linked to activities)				Notes / extension opportunities / homework			
				Answer End-of-unit review, page157			

Notes:

- *The plan can be formatted to view a week at a time and not every lesson – this is important to support manageability.*
- *Most of the plan is self-explanatory. It seeks to include most of the desirable elements. The format can be expanded to A3 but remember the detail required will often be brief.*
- *Class organisation is crucial to the plan working properly including differentiation and the role of additional adults. Plans can be shared to make expectations clear.*
- *Success Criteria:*

  These are an essential part of planning and should be clear and manageable.

  These may be part of active assessment activities where students determine the criteria. In planning, teachers need to write a broad outline of anticipated suggestions.

Week beginning: 1			UNIT:			CLASS:	
Timing	**Frame-work Ref:**	**Learning Objectives**	**Success Criteria**	**Activities (see notes below re: differentiation details, etc) W: whole class; G: group; I: individual.**		**Resources**	**Evidence of achievement**
				Description	**W/G/I**		
3 x 40	**8Db1** **8Db2** **8Db3** **8Db4**	• **Know that if the probability of an event occurring is p, then the probability of it not occurring is 1 – p.** **•Find probabilities based on equally likely outcomes in practical contexts.** • **Find and list systematically all possible mutually exclusive outcomes for single events and for two successive events.** • **Compare estimated experimental probabilities with theoretical probabilities, recognising that:** **– when experiments are repeated different outcomes may result**	The students must find the probability of an event that will not occur, equally likely outcomes and theoretical probability and experimental probability of event through given examples.	Teacher will let them review on the concepts of probability based on what they have learned on their 7th grade. Teacher will discuss about probability of an event that will not occur and equally likely outcomes. Students will do exercises based on those concepts. Students will have an activity wherein they will spin their pen Teacher will introduce experimental probability and theoretical probability.	W	Coursebook Internet	**Q&A**: question / answer **D**: discussion **O**: observation

		– increasing the number of times an experiment is repeated **generally leads to better estimates of probability**		Students will do exercises.			**M**: marked work
Organisation: details of differentiation / groups / adult role (linked to activities)				Notes / extension opportunities / homework			
				Answer End-of-unit review, page157			

Notes:

- *The plan can be formatted to view a week at a time and not every lesson – this is important to support manageability.*
- *Most of the plan is self-explanatory. It seeks to include most of the desirable elements. The format can be expanded to A3 but remember the detail required will often be brief.*
- *Class organisation is crucial to the plan working properly including differentiation and the role of additional adults. Plans can be shared to make expectations clear.*
- *Success Criteria:*

  These are an essential part of planning and should be clear and manageable.

  These may be part of active assessment activities where students determine the criteria. In planning, teachers need to write a broad outline of anticipated suggestions.

Philippine Normal University
National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING

A Semi-detailed Lesson Plan in Grade 9 Mathematics on The Law of Tangents

By:
ZITA, JOANABELLE C.
IV-18 BME

Submitted to:
PROF. ROLANDO DECELLA

I. TOPIC: Solution of Oblique Triangles

SUBTOPICS: The Law of Tangents

REFERENCES:

Isaac, E. et al. (2009). *Trigonometry*: Plane & spherical

The Law of Tangents. (n.d.). Retrieved from www.tutorvista.com

The Law of Tangents. (n.d.). Retrieved from www.mathopenref.com

MATERIALS: Board markers

II. OBJECTIVES

At the end of the period, the students should be able to:

A. demonstrate knowledge on the concepts of the law of tangents;
B. solve for the missing dimensions of the given triangles using law of tangents; and
C. actively participate in the discussion.

III. STRATEGY

A. Inquiry-based learning
B. Lecture and discussion
C. Evaluation

IV. PROCEDURE

A. Daily routines

B. Drill /Review

What is the area of the triangle if:

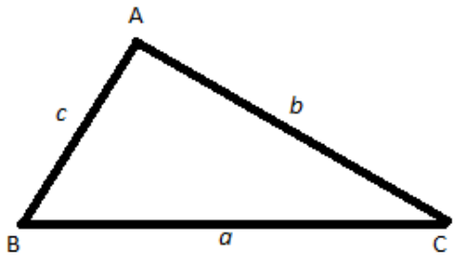
a. a=5, b=9, c=10? **22.45**
b. a=14, b=17, c=15? **21.49**
c. a=36, b=34, c=26? **421.20**

C. Lesson Proper

1. Motivation

In solving oblique triangles, we have sine law and cosine law. There is one more law considering two sides given and its included angle. This is the *tangent law*.

2. Presentation



$$\frac{a-b}{a+b}=\frac{\tan\frac{1}{2}(A-B)}{\tan\frac{1}{2}(A+B)}$$

$$\frac{b-c}{b+c}=\frac{\tan\frac{1}{2}(B-C)}{\tan\frac{1}{2}(B+C)}$$

$$\frac{a-c}{a+c}=\frac{\tan\frac{1}{2}(A-C)}{\tan\frac{1}{2}(A+C)}$$

Examples

Prove the following

1. Solve for the dimensions of triangle ABC if B=72˚, a=58 and c=22.

$A+B+C=180°$ $A+72°+C=180°$ $A+C=180°-72°$	$\frac{a-c}{a+c}=\frac{\tan\frac{1}{2}(A-C)}{\tan\frac{1}{2}(A+C)}$	$\begin{cases}A+C=108°\\A-C=64°\end{cases}$ $2A=172°$

$\mathrm{A}+\mathrm{C}=108°$ $\frac{1}{2}(\mathrm{A}+\mathrm{C})=108°$	$\frac{58-22}{58+22}=\frac{\tan\frac{1}{2}(A-C)}{\tan 108°}$ $\tan\frac{1}{2}(A-C)=\frac{36\tan 108°}{80}$ $\tan\frac{1}{2}(A-C)=0.619$ $\frac{1}{2}(A-C)=\tan^{-1}0.619$ $\frac{1}{2}(A-C)=32°$ $A-C=64°$	$\boldsymbol{A=86°}$ $\boldsymbol{C=22°}$ Using sine law, $\frac{a}{sinA}=\frac{b}{sinB}$ $\frac{58}{sin86°}=\frac{b}{sin72°}$ $\boldsymbol{b=55.3}$

2. If a=17, b=12 and C=60˚, find the measure of angles A, B and side c.

$\mathrm{A}+\mathrm{B}+\mathrm{C}=180°$ $\mathrm{A}+\mathrm{B}+60°=180°$ $\mathrm{A}+\mathrm{B}=180°-60°$ $\mathrm{A}+\mathrm{B}=120°$ $\frac{1}{2}(\mathrm{A}+\mathrm{B})=60°$	$\frac{\mathrm{a}-\mathrm{b}}{a+b}=\frac{\tan\frac{1}{2}(A-B)}{\tan\frac{1}{2}(A+B)}$ $\frac{17-12}{17+12}=\frac{\tan\frac{1}{2}(A-B)}{\tan 60°}$ $\tan\frac{1}{2}(A-B)=\frac{5\tan 60°}{29}$ $\tan\frac{1}{2}(A-B)=0.2986$ $\frac{1}{2}(A-B)=\tan^{-1}0.619$ $\frac{1}{2}(A-B)=17°$ $A-B=34°$	$\begin{cases}\mathrm{A}+\mathrm{C}=120°\\ A-C=34°\end{cases}$ $2A=154°$ $\boldsymbol{A=77°}$ $\boldsymbol{B=43°}$ Using sine law, $\frac{a}{sinA}=\frac{c}{sinC}$ $\frac{17}{sin77°}=\frac{c}{sin60°}$ $\boldsymbol{b=15.11}$

3. Application

   Solve for the dimensions of the triangles. Express your answers to the nearest number of degrees for the angles and nearest hundredths for the sides.

   a. b=81,c=67, A=134˚ $\boldsymbol{B=26°, C=20°, a=136.34}$
   b. a=55cm,c=33cm, B=30˚ $\boldsymbol{A=118°, C=32°, b=31.15cm}$
   c. b=2450m,c=1842m, A=84˚ $\boldsymbol{B=57°, C=39°, a=2907.23m}$

4. Generalization

   The law of tangents can be used to solve oblique triangles when two sides and its included angle are given.

5. Evaluation

   Solve for the dimensions and other measure of angles of the given triangles. Express your answers to the nearest number of degrees for the angles and nearest hundredths for the sides.

   a. b=90cm,c=60cm, A=92˚ $\boldsymbol{B=55°, C=55°, a=109.90cm}$
   b. a=150m,c=124m, B=30˚ $\boldsymbol{A=95°, C=55°, c=75.23m}$
   c. a=34,b=22, C=42˚ $\boldsymbol{A=98°, B=40°, c=22.98}$

V. **AGREEMENT**

A triangle is inscribed in a circle. The triangle has an angle that measures 96˚ and its including sides are 28 in and 33 in. Find the other angles.

Philippine Normal University
National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING

A Semi-detailed Lesson Plan in Grade 9 Mathematics on Cosine and Sine of Sum and Difference of Two Angles

By:
ZITA, JOANABELLE C.
IV-18 BME

Submitted to:
PROF. ROLANDO DECELLA

I. TOPIC: Trigonometric Identities

SUBTOPICS: Cosine of Sum and Difference of Two Angles

REFERENCES:

Isaac, E. et al. (2009). *Trigonometry*: Plane & spherical

Marquez, W. (n.d.). *Plane trigonometry*. Philippine Normal University

MATERIALS: Board markers, visual aids

II. OBJECTIVES

At the end of the period, the students should be able to:

A. demonstrate knowledge on the concepts of the cosine and sine of the sum and difference of two angles;
B. prove identities and solve for the cosine and sine of non-special angles using the cosine of sum or difference of two angles; and
C. actively participate in the discussion.

III. STRATEGY

A. Inquiry-based learning
B. Lecture and discussion

IV. PROCEDURE

A. Daily routines

B. Drill /Review

Complete the table.

	30˚	45˚	60˚	90˚
cos	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	1
sin	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	0

C. Lesson Proper

1. Motivation

Can you solve the following WITHOUT using your calculator?

a. $cos75^\circ$	b. $sin15^\circ$	c. $cos105^\circ$	d. $sin150^\circ$	e. $cos210^\circ$

2. Presentation

Cosine of the Difference of Two Angles

$$\cos(\theta - \phi) = cos\theta cos\phi + sin\theta sin\phi$$

Cosine of the Sum of Two Angles

$$\cos(\theta + \phi) = cos\theta cos\phi - sin\theta sin\phi$$

Sine of the Sum of Two Angles

$$\sin(\theta + \phi) = sin\theta cos\phi + cos\theta sin\phi$$

Sine of the Difference of Two Angles

$$\sin(\theta - \phi) = sin\theta cos\phi - cos\theta sin\phi$$

Examples

Prove the following

3. $\cos(\pi - B) = -cosB$

$$\cos(\pi - B) = cos\pi cosB + sin\pi sinB$$
$$\cos(\pi - B) = (-1)cosB + (0)sinB$$

$$\cos(\pi - B) = -cosB$$

4. $\cos(2\pi - A) = cosA$

$$\cos(2\pi - A) = cos2\pi cosA + sin2\pi sinA$$
$$\cos(2\pi - A) = (1)cosA + (0)sinA$$
$$\cos(2\pi - A) = cosA$$

5. $\sin(\pi - A) = sinA$

$$\sin(\pi - A) = sin\pi cosA - cos\pi sinA$$
$$\sin(\pi - A) = (0)cosA - (-1)sinA$$
$$\sin(\pi - A) = sinA$$

6. $\sin(2\pi - B) = -sinB$

$$\sin(2\pi - B) = sin2\pi cosB - cos2\pi sinB$$
$$\sin(2\pi - B) = (0)cosB - (1)sinB$$
$$\sin(2\pi - B) = -sinB$$

7. Find the exact value of $sin75^{\circ}$without using your calculator.

$$\sin 75° = \sin(45° + 30°)$$

$$\sin(45° + 30°) = sin45°cos30° + cos45°sin30°$$

$$\sin(45° + 30°) = (\frac{\sqrt{2}}{2})(\frac{\sqrt{3}}{2}) + (\frac{\sqrt{2}}{2})(\frac{1}{2})$$

$$\sin(45° + 30°) = \frac{\sqrt{6} + \sqrt{2}}{4}$$

$$\sin 75° = \frac{\sqrt{6} + \sqrt{2}}{4}$$

8. Find the exact value of $cos15^{\circ}$without using your calculator.

$$\cos 15° = \cos(45° - 30°)$$
$$\cos(45° - 30°) = cos45°cos30° + sin45°sin30°$$
$$\cos(45° - 30°) = (\frac{\sqrt{2}}{2})(\frac{\sqrt{3}}{2}) + (\frac{\sqrt{2}}{2})(\frac{1}{2})$$
$$\cos(45° - 30°) = \frac{\sqrt{6} + \sqrt{2}}{4}$$

$$\cos 15° = \frac{\sqrt{6} + \sqrt{2}}{4}$$

3. Application

Prove the following:

1. $\cos(\pi + A) = -cosA$

$$\cos(\pi + A) = cos\pi cosA - sin\pi sinA$$
$$\cos(\pi + A) = (-1)cosA - (0)sinA$$
$$\cos(\pi + A) = -cosA$$

2. $\cos\left(\frac{\pi}{2} - D\right) = sinD$

$$\cos\left(\frac{\pi}{2} - D\right) = cos\frac{\pi}{2}cosD + sin\frac{\pi}{2}sinD$$
$$\cos\left(\frac{\pi}{2} - D\right) = (0)cosD + (1)sinD$$
$$\cos\left(\frac{\pi}{2} - D\right) = sinD$$

3. $\sin(\pi + C) = -sinC$

$$\sin(\pi + C) = sin\pi cosC + cos\pi sinC$$
$$\sin(\pi + C) = (0)cosC + (-1)sinC$$

4. $\sin\left(\frac{\pi}{2} - A\right) = cosA$

$$\sin\left(\frac{\pi}{2} - A\right) = sin\frac{\pi}{2}cosA - cos\frac{\pi}{2}sinA$$
$$\sin\left(\frac{\pi}{2} - A\right) = (1)cosA - (0)sinA$$
$$\sin\left(\frac{\pi}{2} - A\right) = cosA$$

5. Find the exact value of $cos75^\circ$ without using your calculator. $\frac{\sqrt{6}-\sqrt{2}}{4}$
6. Find the exact value of $sin105^\circ$without using your calculator. $\frac{\sqrt{6}+\sqrt{2}}{4}$

4. Generalization

Cosine of the Difference of Two Angles

$$\cos(\theta - \phi) = cos\theta cos\phi + sin\theta sin\phi$$

Cosine of the Sum of Two Angles

$$\cos(\theta + \phi) = cos\theta cos\phi - sin\theta sin\phi$$

Sine of the Sum of Two Angles

$$\sin(\theta + \phi) = sin\theta cos\phi + cos\theta sin\phi$$

Sine of the Difference of Two Angles

$$\sin(\theta - \phi) = sin\theta cos\phi - cos\theta sin\phi$$

5. Evaluation

Find the exact value of the following WIHOUT using your calculator. Show your solutions.

1. $cos105^\circ$ $\frac{-\sqrt{6}+\sqrt{2}}{4}$
2. $sin150^\circ \frac{1}{2}$
3. $\cos\frac{5\pi}{6} - \frac{\sqrt{3}}{2}$

Prove the following.

4. $\cos2x = \cos^2 x - \sin^2 x$

$$\cos(x + x) = cosxcosx - sinxsinx$$
$$\cos(x + x) = \cos^2 x - \sin^2 x$$
$$\cos2x = \cos^2 x - \sin^2 x$$

5. $\sin\left(\frac{3\pi}{2} - A\right) = cosA$

$$\sin\left(\frac{3\pi}{2} - A\right) = sin\frac{3\pi}{2}cosA - cos\frac{3\pi}{2}sinA$$
$$\sin\left(\frac{3\pi}{2} - A\right) = (-1)cosA - (0)sinA$$
$$\sin\left(\frac{3\pi}{2} - A\right) = cosA$$

V. **AGREEMENT**

Find the formulas for the tangent of the sum of two angles and the tangent of the difference of two angles. Show their derivation.

Philippine Normal University
National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING

A Semi-detailed Lesson Plan in Grade 9 Mathematics on Tangent of Sum and Difference of Two Angles

By:
ZITA, JOANABELLE C.
IV-18 BME

Submitted to:
PROF. ROLANDO DECELLA

I. TOPIC: Trigonometric Identities

SUBTOPICS: Tangent of Sum and Difference of Two Angles

REFERENCES:

Isaac, E. et al. (2009). *Trigonometry*: Plane & spherical

Marquez, W. (n.d.). *Plane trigonometry*. Philippine Normal University

MATERIALS: Board markers, visual aids

II. OBJECTIVES

At the end of the period, the students should be able to:

A. demonstrate knowledge on the concepts of the tangent of the sum and difference of two angles;
B. prove identities and solve for the tangent of non-special angles using the tangent of sum or difference of two angles; and
C. manifest skepticism.

III. STRATEGY

A. Inquiry-based learning
B. Lecture and discussion

IV. PROCEDURE

A. Daily routines

B. Drill /Review

Complete the table.

Cosine of the Difference of Two Angles

$$\cos(\theta - \phi) = cos\theta cos\phi + sin\theta sin\phi$$

Cosine of the Sum of Two Angles

$$\cos(\theta + \phi) = cos\theta cos\phi - sin\theta sin\phi$$

Sine of the Sum of Two Angles

$$\sin(\theta + \phi) = sin\theta cos\phi + cos\theta sin\phi$$

Sine of the Difference of Two Angles

$$\sin(\theta - \phi) = sin\theta cos\phi - cos\theta sin\phi$$

C. Lesson Proper

1. Motivation

True or False

a. $tanA = \frac{sinA}{cosA}$

b. $\tan(A + B) = \frac{\sin(A+B)}{\cos(A+B)}$

c. $\tan(\mathrm{A} - \mathrm{B}) = tanAtanB - cotAcotB$

Why?

2. Presentation

Tangent of the Sum of Two Angles

$$\tan(A + B) = \frac{tanA + tanB}{1 - tanAtanB}$$

Tangent of the Difference of Two Angles

$$\tan(A - B) = \frac{tanA - tanB}{1 + tanAtanB}$$

Examples

Prove the following

a. $\tan(\pi - C) = -tanC$

$$\tan(\pi - C) = \frac{tan\pi - tanC}{1 + tan\pi tanC}$$
$$\tan(\pi - C) = \frac{0 - tanC}{1 + (0)tanC}$$
$$\tan(\pi - C) = -tanC$$

b. $\tan(2\pi - D) = -tanD$

$$\tan(2\pi - D) = \frac{tan2\pi - tanD}{1 + tan2\pi tanD}$$
$$\tan(2\pi - D) = \frac{0 - tanD}{1 + (0)tanD}$$
$$\tan(2\pi - D) = -tanD$$

c. Find the exact value of $tan105^\circ$ without using your calculator.

$tan105^\circ = \tan(60° + 45°)$ $\tan(60° + 45°) = \frac{tan60° + tan45°}{1 - tan60°tan45°}$ $\tan(60° + 45°) = \frac{\sqrt{3} + 1}{1 - \sqrt{3}(1)}$	$\tan(60° + 45°) = \frac{\sqrt{3} + 1}{1 - \sqrt{3}}$ $\tan(60° + 45°) = -2 - \sqrt{3}$ $\mathbf{tan105° = -2 - \sqrt{3}}$

3. Application

Prove the following:

a. $\tan(\pi + B) = tanB$

$$\tan(\pi + B) = \frac{tan\pi + tanB}{1 - tan\pi tanB}$$
$$\tan(\pi + B) = \frac{0 + tanB}{1 - (0)tanB}$$
$$\tan(\pi + B) = tanB$$

b. $\tan 2A = \frac{2tanA}{1 - \tan^2 A}$

$$\tan(A + A) = \frac{tanA + tanA}{1 - tanAtanA}$$
$$\tan(A + A) = \frac{2tanA}{1 - \tan^2 A}$$
$$\tan 2A = \frac{2tanA}{1 - \tan^2 A}$$

c. Find the exact value of $tan15^\circ$ without using your calculator.

$tan15^\circ = \tan(60° - 45°)$ $\tan(60° - 45°) = \frac{tan60° - tan45°}{1 + tan60°tan45°}$ $\tan(60° - 45°) = \frac{\sqrt{3} - 1}{1 + \sqrt{3}(1)}$	$\tan(60° - 45°) = \frac{\sqrt{3} - 1}{1 + \sqrt{3}}$ $\tan(60° - 45°) = 2 - \sqrt{3}$ $\mathbf{tan15° = 2 - \sqrt{3}}$

4. Generalization

Tangent of the Sum of Two Angles

$$\tan(A + B) = \frac{tanA + tanB}{1 - tanAtanB}$$

Tangent of the Difference of Two Angles

$$\tan(A-B)=\frac{tanA-tanB}{1+tanAtanB}$$

5. Evaluation

Find the exact value of the following WIHOUT using your calculator. Show your solutions.

1. $tan75^{\circ}$ $\mathbf{2+\sqrt{3}}$
2. $tan\frac{11\pi}{6}$ $\frac{\sqrt{3}}{3}$
3. $\tan\frac{5\pi}{6}$ $-\frac{\sqrt{3}}{3}$

Prove the following.

4. $\tan\left(\frac{\pi}{4}-B\right)=\frac{1-tanB}{1+tanB}$

$\tan\left(\frac{\pi}{4}-B\right)=\frac{\tan\frac{\pi}{4}-tanB}{1+\tan\frac{\pi}{4}tanB}$ $\tan\left(\frac{\pi}{4}-B\right)=\frac{1-tanB}{1+(1)tanB}$	$\tan\left(\frac{\pi}{4}-B\right)=\frac{1-tanB}{1+tanB}$

5. $\tan(A+45°)=\frac{sinA+cosA}{cosA-sinA}$

$\tan(A+45°)=\frac{tanA+tan45°}{1-tanAtan45°}$ $\tan(A+45°)=\frac{tanA+1}{1-tanA(1)}$ $\tan(A+45°)=\frac{tanA+1}{1-tanA(1)}$	$\tan(A+45°)=\frac{\frac{sinA}{cosA}+1}{1-\frac{sinA}{cosA}}$ $\tan(A+45°)=\frac{\frac{sinA+cosA}{cosA}}{\frac{cosA-sinA}{cosA}}$ $\tan(A+45°)=\frac{sinA+cosA}{cosA-sinA}$

V. **AGREEMENT**

Prove $\tan(E+45°)-\cot(E-45°)=\frac{2(\text{cosE}+\text{sinE})}{cosE-sinE}$.

Philippine Normal University
National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING

A Semi-detailed Lesson Plan in Grade 9 Mathematics on Double-Angle Formulas

By:
ZITA, JOANABELLE C.
IV-18 BME

Submitted to:
PROF. ROLANDO DECELLA

I. TOPIC: Trigonometric Identities
SUBTOPIC: Double Angle Formula
REFERENCES:

Isaac, E. et al. (2009). *Trigonometry*: Plane & spherical
Marquez, W. (n.d.). *Plane trigonometry*. Philippine Normal University
Using Double- and Half-Angle Formulas. (n.d.). Retrieved from http://www.classzone.com/eservices/home/pdf/teacher/LA214GAD.pdf

MATERIALS: Board markers, visual aids

II. OBJECTIVES

At the end of the period, the students should be able to:

A. demonstrate knowledge on the concepts of the double-angle formulas;
B. Evaluate the given trigonometric expressions using double-angle formulas; and
C. actively participate in the discussion.

III. STRATEGY

A. Inquiry-based learning
B. Lecture and discussion
C. Evaluation

IV. PROCEDURE

A. Daily routines

B. Drill /Review

Tangent of the Sum of Two Angles

$$\tan(A+B)=\frac{tanA+tanB}{1-tanAtanB}$$

Tangent of the Difference of Two Angles

$$\tan(A-B)=\frac{tanA-tanB}{1+tanAtanB}$$

C. Lesson Proper

1. Motivation

Find the following in one minute WITHOUT using your scientific calculator.

a. $\sin 120°$
b. $\cos 150°$
c. $\tan 210°$

There is more convenient way of solving these. This is through the use of double-angle formulas.

2. Presentation

We have angle A. What is the twice of A?
Let us first derive the formula for $\sin 2A$.
How can we express $\sin 2A$ in terms of sine of the sum of two angles?
What is $\sin(A+A)$ based on the formula of the sine of the sum of two angles?
If we further simplify this expression, what will be the result?

Sine of Twice an Angle

$$\sin 2A = 2\sin A \cos A$$

How can we express $\cos 2A$ in terms of cosine of the sum of two angles?
What is $\cos(A + A)$ based on the formula of the cosine of the sum of two angles?
If we further simplify this expression, what will be the result?

Cosine of Twice an Angle

$$\cos 2A = \cos^2 A - \sin^2 A$$

There are other formulas for cos2A. Let us use the identity $\sin^2 A + \cos^2 A = 1$.
Based on the identity, what is $\sin^2 A$? What is $\cos^2 A$?
If we substitute $\cos^2 A$ by $1 - \sin^2 A$, what is cos2A?

$$\cos 2A = 1 - 2\sin^2 A$$

If we substitute $\sin^2 A$ by $1 - \cos^2 A$, what is cos2A?

$$\cos 2A = 2\cos^2 A - 1$$

For the tangent of twice an angle, how do we express $\tan 2A$ in terms of sine and cosine?
What is sin2A and cos2A?
For the terms to be expressed in terms of tangent, what will be the divisor for both numerator and denominator?
If we further simplify this one, what will be the result?

Tangent of Twice an Angle

$$\tan 2A = \frac{2\tan A}{1 - \tan^2 A}$$

Example

Find the value of $\sin 60°$, $\cos 60°$ and $\tan 60°$using the double-angle formula.
$\sin 60°$ is double of what measure of angle?

$$\sin 2A = 2\sin A \cos A$$
$$\sin 2(30°) = 2\sin 30° \cos 30°$$
$$\sin 2(30°) = 2\left(\frac{1}{2}\right)\left(\frac{\sqrt{3}}{2}\right)$$
$$\sin 2(30°) = \frac{\sqrt{3}}{2}$$

$$\cos 2A = \cos^2 A - \sin^2 A$$
$$\cos 2(30°) = \cos^2 30° - \sin^2 30°$$
$$\cos 2(30°) = \left(\frac{\sqrt{3}}{2}\right)^2 - \left(\frac{1}{2}\right)^2$$
$$\cos 2(30°) = \frac{3}{4} - \frac{1}{4}$$
$$\cos 2(30°) = \frac{1}{2}$$

$$\tan 2(30°) = \frac{2\tan 30°}{1 - \tan^2 30°}$$
$$\tan 2(30°) = \frac{2\left(\frac{\sqrt{3}}{3}\right)}{1 - \left(\frac{\sqrt{3}}{3}\right)^2}$$
$$\tan 2(30°) = \sqrt{3}$$

3. Applications

Find the value of $\sin 150°$, $\cos 150°$, $\tan 150°$ using the double-angle formula.

Find cos4C if sin2C=y and cos2C=x

$\cos 4C = \cos^2 2C - \sin^2 2C$ $\cos 4C = (\cos 2C)^2 - (sin2C)^2$	$\cos 4C = x^2 - y^2$

4. Generalization

Here are the double-angle formulas.

$\sin 2A = 2\sin A \cos A$	$\tan 2A = \frac{2\tan A}{1 - \tan^2 A}$
$\cos 2A = \cos^2 A - \sin^2 A$ $\cos 2A = 1 - 2\sin^2 A$ $\cos 2A = 2\cos^2 A - 1$	

5. Evaluation

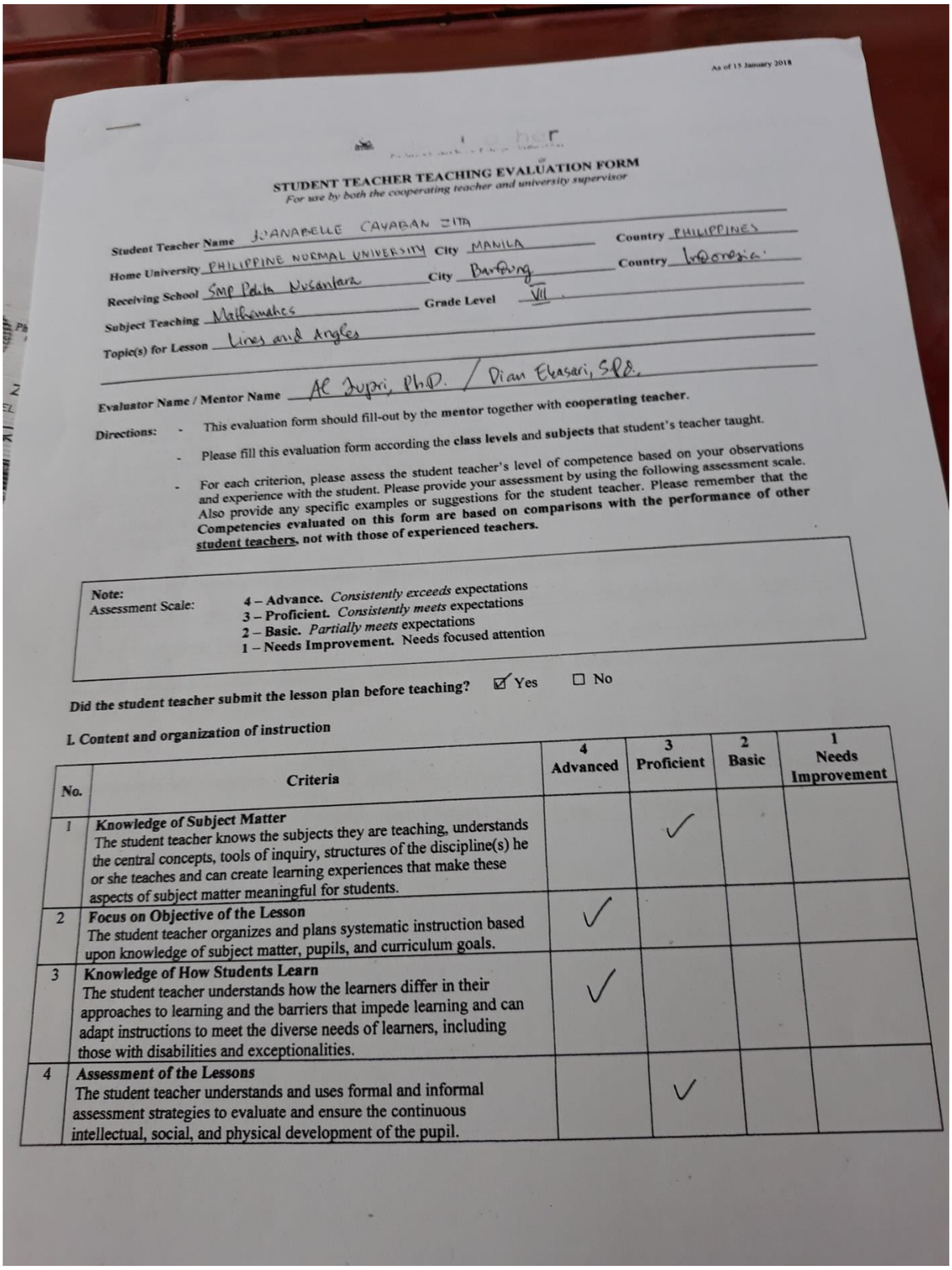
Find the following WITHOUT using your calculator or trigonometric tables. Show your complete solutions.

1. $\sin 120°$, $\frac{\sqrt{3}}{2}$
2. $\cos 210°$ $-\frac{\sqrt{3}}{2}$
3. $\tan 120°$ $-\sqrt{3}$
4. Find tan6C if sin3C=y and cos3C=x $\frac{2xy}{x^2-y^2}$
5. sin4D if sinD=a and cosD=b $4a^3b - 4ab^3$

V. **AGREEMENT**

Find the value of $\sin 2A$, $\cos 2A$ and $\tan 2A$ if $\cos A = \frac{7}{25}$ and A is in QI.

Evaluation forms



As of 15 January 2018

STUDENT TEACHER TEACHING EVALUATION FORM
For use by both the cooperating teacher and university supervisor

Student Teacher Name JOANABELLE CAVABAN ZITA
Home University PHILIPPINE NORMAL UNIVERSITY **City** MANILA **Country** PHILIPPINES
Receiving School SMP Pelita Nusantara **City** Bandung **Country** Indonesia
Subject Teaching Mathematics **Grade Level** VII
Topic(s) for Lesson Lines and Angles
Evaluator Name / Mentor Name Al Jupri, Ph.D. / Dian Ekasari, S.Pd.

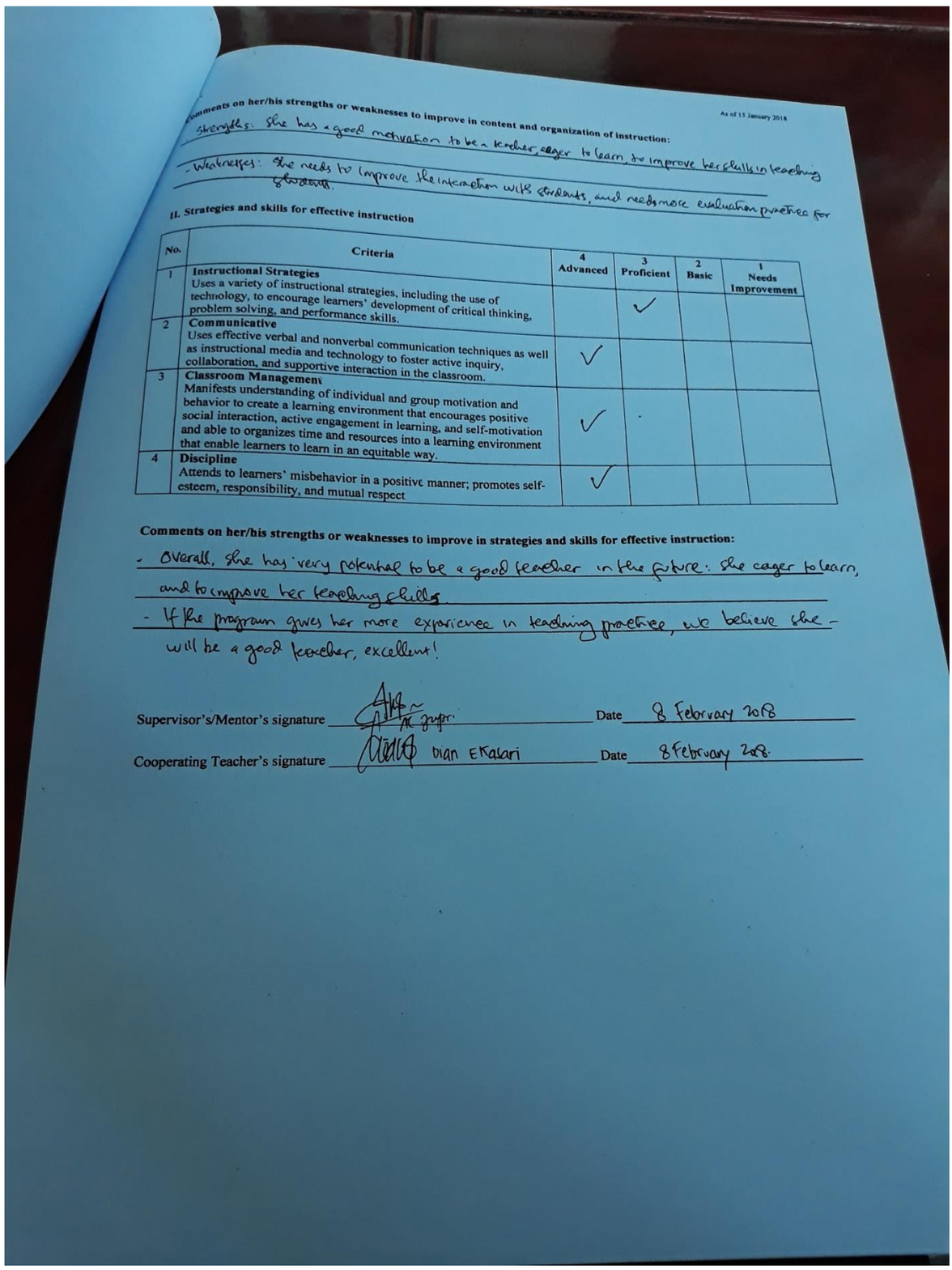
Directions:
- This evaluation form should fill-out by the **mentor** together with **cooperating teacher.**
- Please fill this evaluation form according the **class levels** and **subjects** that student's teacher taught.
- For each criterion, please assess the student teacher's level of competence based on your observations and experience with the student. Please provide your assessment by using the following assessment scale. Also provide any specific examples or suggestions for the student teacher. Please remember that the **Competencies evaluated on this form are based on comparisons with the performance of other student teachers, not with those of experienced teachers.**

Note:
Assessment Scale:
4 – Advance. *Consistently exceeds* expectations
3 – Proficient. *Consistently meets* expectations
2 – Basic. *Partially meets* expectations
1 – Needs Improvement. Needs focused attention

Did the student teacher submit the lesson plan before teaching? ☑ Yes ☐ No

I. Content and organization of instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Knowledge of Subject Matter** The student teacher knows the subjects they are teaching, understands the central concepts, tools of inquiry, structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.		✓		
2	**Focus on Objective of the Lesson** The student teacher organizes and plans systematic instruction based upon knowledge of subject matter, pupils, and curriculum goals.	✓			
3	**Knowledge of How Students Learn** The student teacher understands how the learners differ in their approaches to learning and the barriers that impede learning and can adapt instructions to meet the diverse needs of learners, including those with disabilities and exceptionalities.	✓			
4	***Assessment of the Lessons*** The student teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the pupil.		✓		



As of 15 January 2018

Comments on her/his strengths or weaknesses to improve in content and organization of instruction:

- Strengths: She has a good motivation to be a teacher, eager to learn, to improve her skills in teaching & learning.
- Weaknesses: She needs to improve the interaction with students, and need more evaluation practices for

II. Strategies and skills for effective instruction

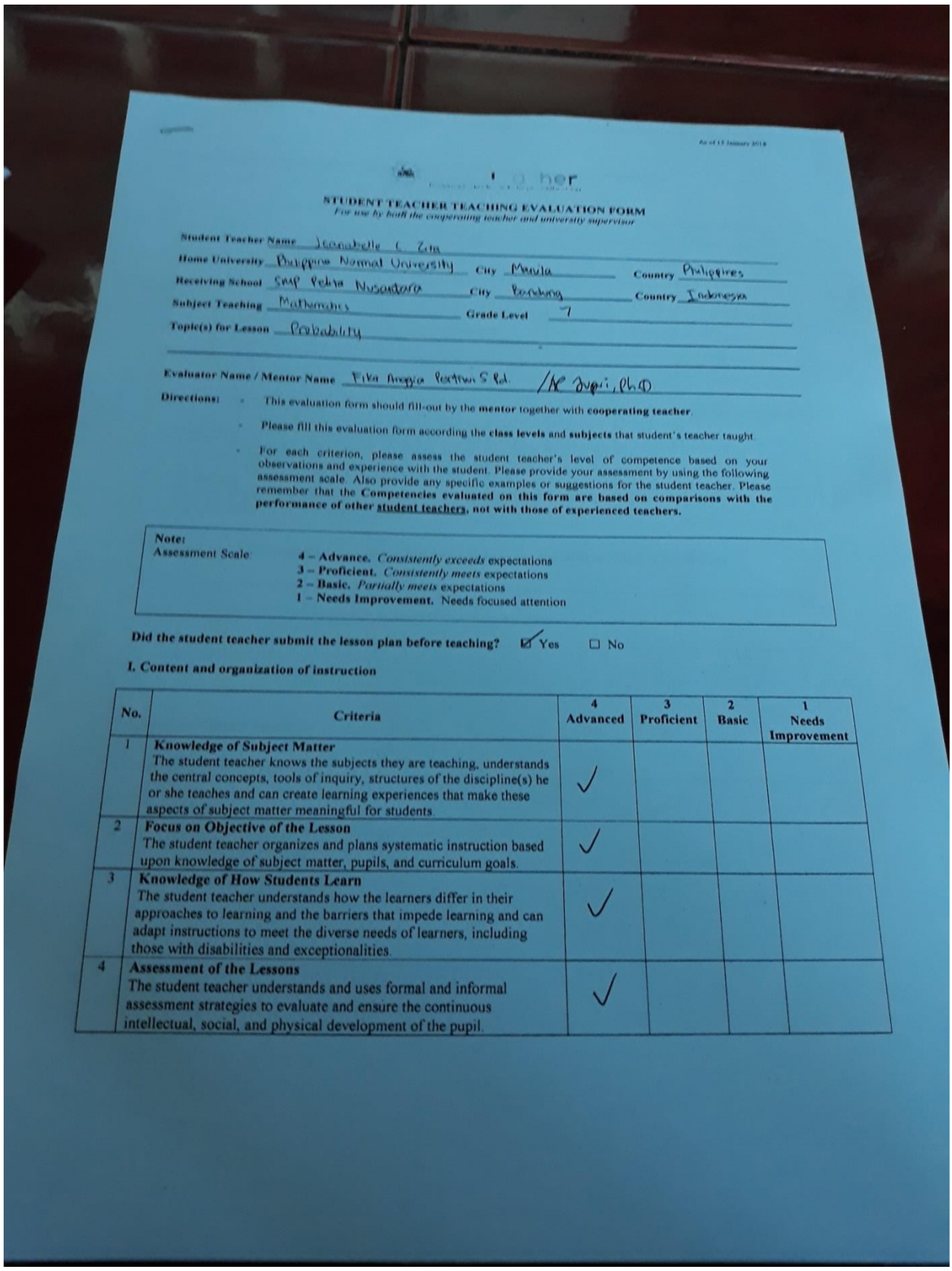
No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Instructional Strategies** Uses a variety of instructional strategies, including the use of technology, to encourage learners' development of critical thinking, problem solving, and performance skills.		✓		
2	**Communicative** Uses effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.	✓			
3	**Classroom Management** Manifests understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation and able to organizes time and resources into a learning environment that enable learners to learn in an equitable way.	✓			
4	**Discipline** Attends to learners' misbehavior in a positive manner; promotes self-esteem, responsibility, and mutual respect	✓			

Comments on her/his strengths or weaknesses to improve in strategies and skills for effective instruction:

- Overall, she has very potential to be a good teacher in the future. She eager to learn, and to improve her teaching skills.
- If the program gives her more experience in teaching practice, we believe she will be a good teacher, excellent!

Supervisor's/Mentor's signature _____ Date 8 February 2018

Cooperating Teacher's signature Dian Ekasari Date 8 February 2018.



STUDENT TEACHER TEACHING EVALUATION FORM

For use by both the cooperating teacher and university supervisor

Student Teacher Name Jeanabelle C. Zita

Home University Philippine Normal University **City** Manila **Country** Philippines

Receiving School SMP Pelita Nusantara **City** Bandung **Country** Indonesia

Subject Teaching Mathematics **Grade Level** 7

Topic(s) for Lesson Probability

Evaluator Name / Mentor Name Fitri Anggia Pertiwi S.Pd. / Ade Dwi, PhD

Directions:

- This evaluation form should fill-out by the **mentor** together with **cooperating teacher**.
- Please fill this evaluation form according the **class levels** and **subjects** that student's teacher taught.
- For each criterion, please assess the student teacher's level of competence based on your observations and experience with the student. Please provide your assessment by using the following assessment scale. Also provide any specific examples or suggestions for the student teacher. Please remember that the **Competencies evaluated on this form are based on comparisons with the performance of other student teachers, not with those of experienced teachers.**

Note:

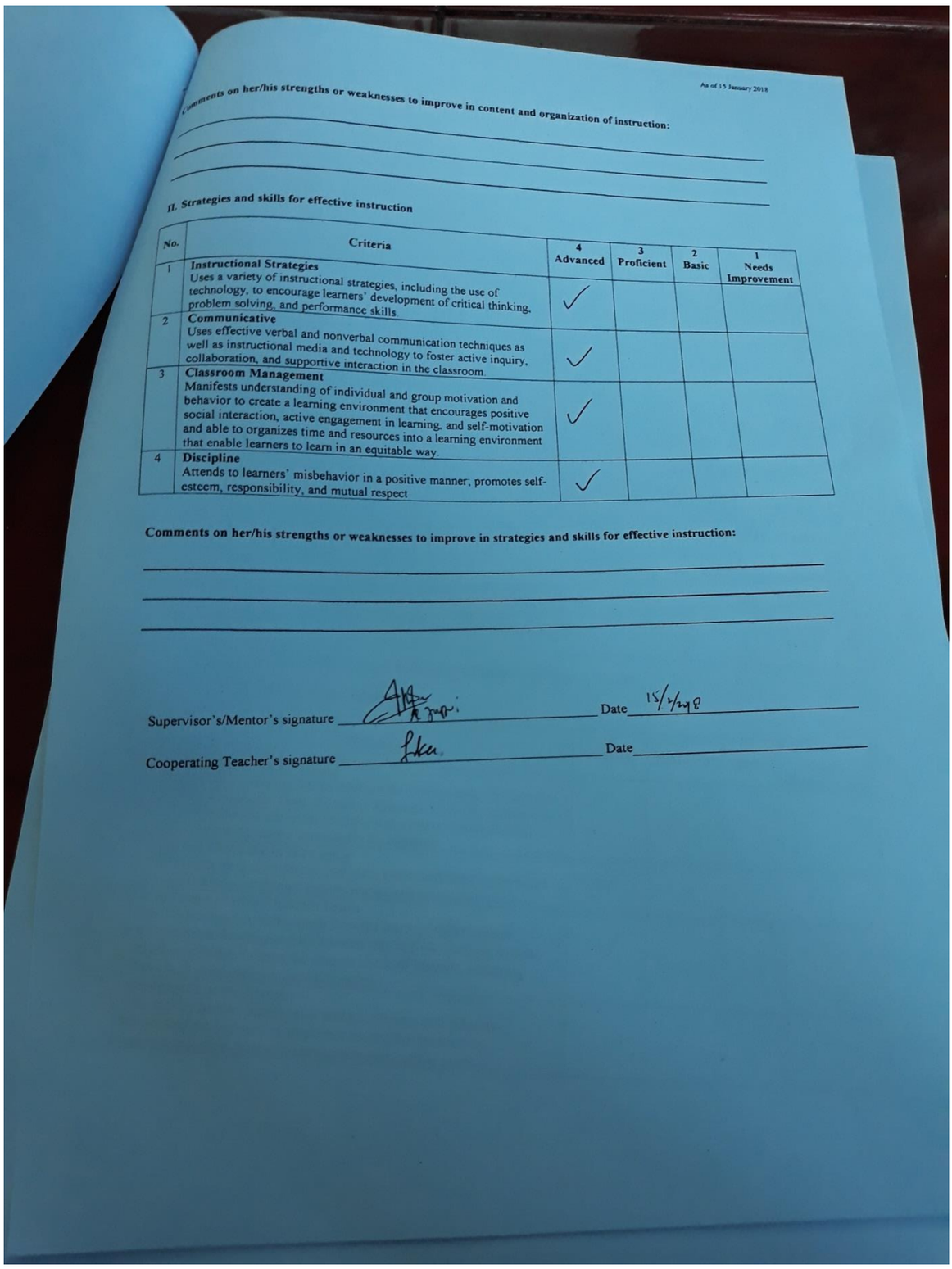
Assessment Scale:

4 – Advance. *Consistently exceeds* expectations
3 – Proficient. *Consistently meets* expectations
2 – Basic. *Partially meets* expectations
1 – Needs Improvement. Needs focused attention

Did the student teacher submit the lesson plan before teaching? ☑ Yes ☐ No

I. Content and organization of instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Knowledge of Subject Matter** The student teacher knows the subjects they are teaching, understands the central concepts, tools of inquiry, structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.	✓			
2	**Focus on Objective of the Lesson** The student teacher organizes and plans systematic instruction based upon knowledge of subject matter, pupils, and curriculum goals.	✓			
3	**Knowledge of How Students Learn** The student teacher understands how the learners differ in their approaches to learning and the barriers that impede learning and can adapt instructions to meet the diverse needs of learners, including those with disabilities and exceptionalities.	✓			
4	**Assessment of the Lessons** The student teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the pupil.	✓			



As of 15 January 2018

Comments on her/his strengths or weaknesses to improve in content and organization of instruction:

_____

_____

_____

II. Strategies and skills for effective instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Instructional Strategies** Uses a variety of instructional strategies, including the use of technology, to encourage learners' development of critical thinking, problem solving, and performance skills	✓			
2	**Communicative** Uses effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.	✓			
3	**Classroom Management** Manifests understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation and able to organizes time and resources into a learning environment that enable learners to learn in an equitable way.	✓			
4	**Discipline** Attends to learners' misbehavior in a positive manner; promotes self-esteem, responsibility, and mutual respect	✓			

Comments on her/his strengths or weaknesses to improve in strategies and skills for effective instruction:

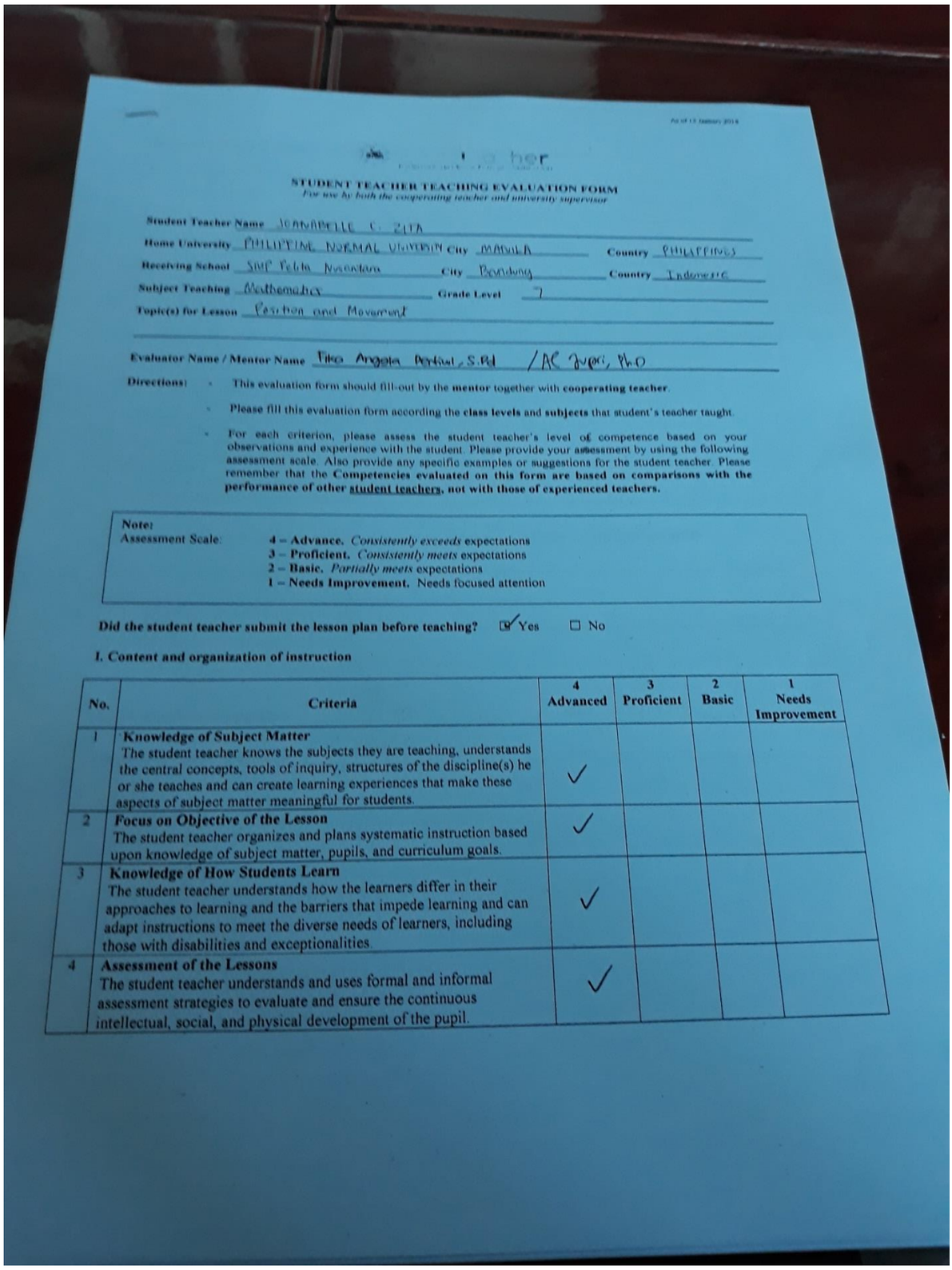
_____

_____

_____

Supervisor's/Mentor's signature _____ Date 15/2/2018

Cooperating Teacher's signature _____ Date _____



STUDENT TEACHER TEACHING EVALUATION FORM
For use by both the cooperating teacher and university supervisor

Student Teacher Name JOANABELLE C. ZITA
Home University PHILIPPINE NORMAL UNIVERSITY **City** MANILA **Country** PHILIPPINES
Receiving School SMP Pelita Nusantara **City** Bandung **Country** Indonesia
Subject Teaching Mathematics **Grade Level** 7
Topic(s) for Lesson Position and Movement

Evaluator Name / Mentor Name Tiko Angela Permai, S.Pd / AC Jupri, Ph.D

Directions:
- This evaluation form should fill-out by the **mentor** together with **cooperating teacher**.
- Please fill this evaluation form according the **class levels** and **subjects** that student's teacher taught.
- For each criterion, please assess the student teacher's level of competence based on your observations and experience with the student. Please provide your assessment by using the following assessment scale. Also provide any specific examples or suggestions for the student teacher. Please remember that the **Competencies evaluated on this form are based on comparisons with the performance of other student teachers, not with those of experienced teachers.**

Note:
Assessment Scale:
4 – Advance. *Consistently exceeds* expectations
3 – Proficient. *Consistently meets* expectations
2 – Basic. *Partially meets* expectations
1 – Needs Improvement. Needs focused attention

Did the student teacher submit the lesson plan before teaching? ☑ Yes ☐ No

I. Content and organization of instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Knowledge of Subject Matter** The student teacher knows the subjects they are teaching, understands the central concepts, tools of inquiry, structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.	✓			
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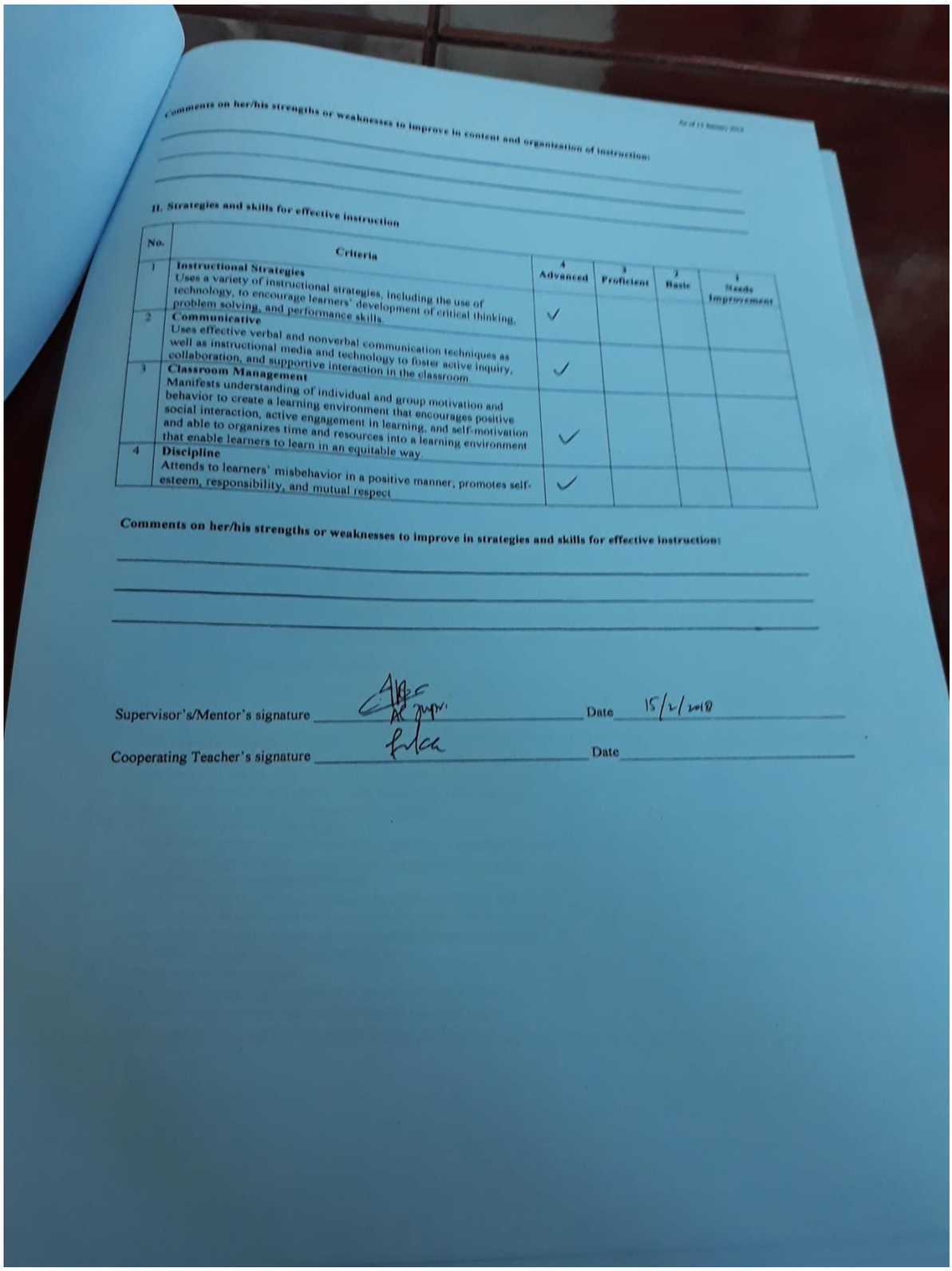
3	**Knowledge of How Students Learn** The student teacher understands how the learners differ in their approaches to learning and the barriers that impede learning and can adapt instructions to meet the diverse needs of learners, including those with disabilities and exceptionalities.	✓			
4	**Assessment of the Lessons** The student teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the pupil.	✓			



Comments on her/his strengths or weaknesses to improve in content and organization of instruction:

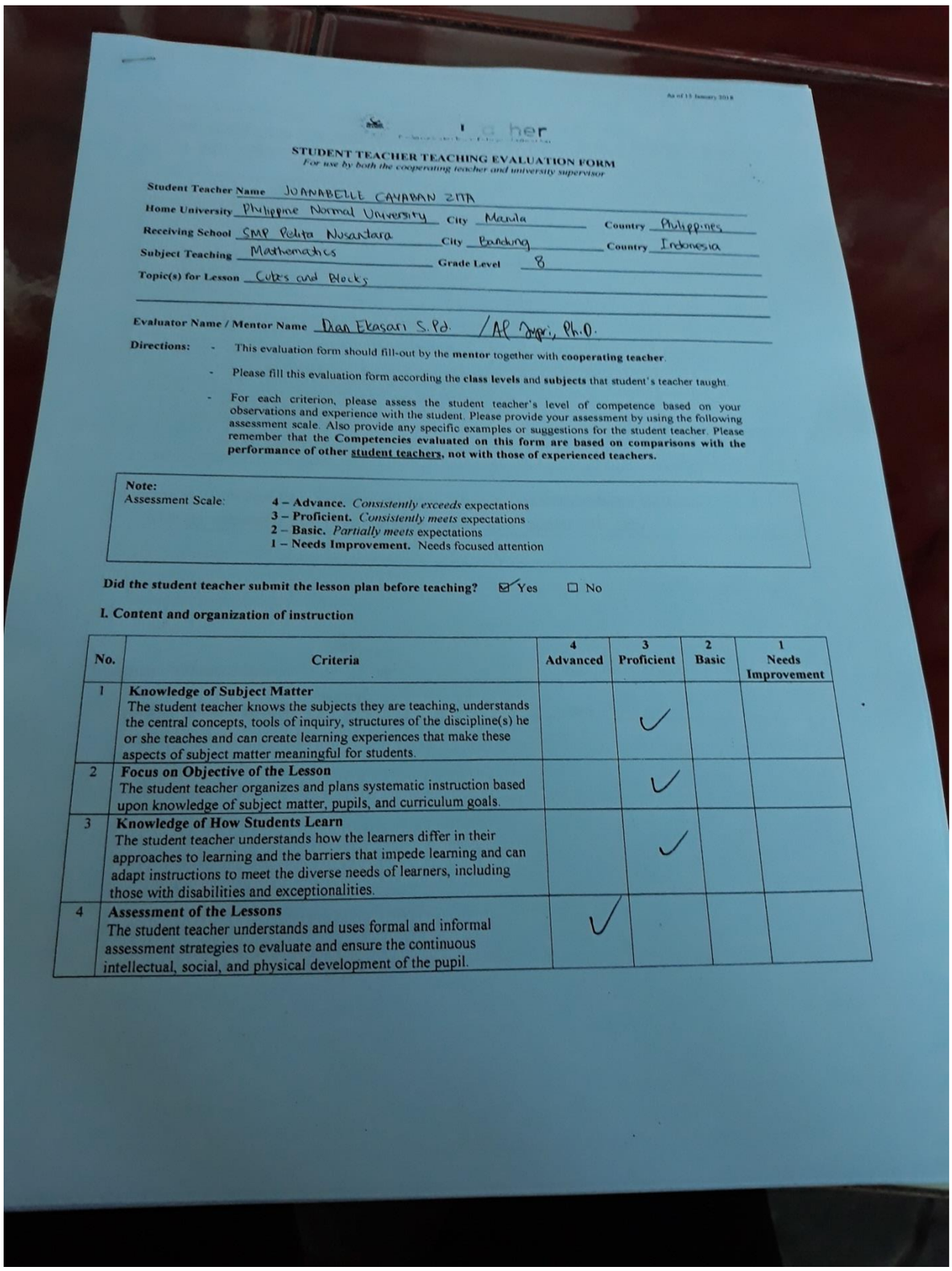
II. Strategies and skills for effective instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Instructional Strategies** Uses a variety of instructional strategies, including the use of technology, to encourage learners' development of critical thinking, problem solving, and performance skills.	✓			
2	**Communicative** Uses effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.	✓			
3	**Classroom Management** Manifests understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation and able to organizes time and resources into a learning environment that enable learners to learn in an equitable way.	✓			
4	**Discipline** Attends to learners' misbehavior in a positive manner, promotes self-esteem, responsibility, and mutual respect	✓			

Comments on her/his strengths or weaknesses to improve in strategies and skills for effective instruction:

Supervisor's/Mentor's signature _____ Date 15/2/2018

Cooperating Teacher's signature _____ Date _____



As of 15 January 2018

STUDENT TEACHER TEACHING EVALUATION FORM

For use by both the cooperating teacher and university supervisor

Student Teacher Name JOANABELLE CAYABAN ZITA

Home University Philippine Normal University **City** Manila **Country** Philippines

Receiving School SMP Pelita Nusantara **City** Bandung **Country** Indonesia

Subject Teaching Mathematics **Grade Level** 8

Topic(s) for Lesson Cubes and Blocks

Evaluator Name / Mentor Name Dian Ekasari S.Pd. / Al Jupri, Ph.D.

Directions:

- This evaluation form should fill-out by the **mentor** together with **cooperating teacher**.
- Please fill this evaluation form according the **class levels** and **subjects** that student's teacher taught.
- For each criterion, please assess the student teacher's level of competence based on your observations and experience with the student. Please provide your assessment by using the following assessment scale. Also provide any specific examples or suggestions for the student teacher. Please remember that the **Competencies evaluated on this form are based on comparisons with the performance of other student teachers, not with those of experienced teachers.**

Note:
Assessment Scale:

4 – Advance. *Consistently exceeds* expectations
3 – Proficient. *Consistently meets* expectations
2 – Basic. *Partially meets* expectations
1 – Needs Improvement. Needs focused attention

Did the student teacher submit the lesson plan before teaching? ☑ Yes ☐ No

I. Content and organization of instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Knowledge of Subject Matter** The student teacher knows the subjects they are teaching, understands the central concepts, tools of inquiry, structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.		✓		
2	**Focus on Objective of the Lesson** The student teacher organizes and plans systematic instruction based upon knowledge of subject matter, pupils, and curriculum goals.		✓		
3	**Knowledge of How Students Learn** The student teacher understands how the learners differ in their approaches to learning and the barriers that impede learning and can adapt instructions to meet the diverse needs of learners, including those with disabilities and exceptionalities.		✓		
4	**Assessment of the Lessons** The student teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the pupil.	✓			

As of [illegible]

Comments on her/his strengths or weaknesses to improve in content and organization of instruction:

comunication with the pupils more again, dia or by ercise, give a chance to answer to pupils another.

II. Strategies and skills for effective instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Instructional Strategies** Uses a variety of instructional strategies, including the use of technology, to encourage learners' development of critical thinking, problem solving, and performance skills		✓		
2	**Communicative** Uses effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom	✓			
3	**Classroom Management** Manifests understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation and able to organizes time and resources into a learning environment that enable learners to learn in an equitable way		✓		
4	**Discipline** Attends to learners' misbehavior in a positive manner, promotes self-esteem, responsibility, and mutual respect	✓			

Comments on her/his strengths or weaknesses to improve in strategies and skills for effective instruction:

Give an example of the problem that the number it easy

Supervisor's/Mentor's signature ____________ Date 15/2/2018

Cooperating Teacher's signature ____________ Date ____________

STUDENT TEACHER TEACHING EVALUATION FORM

For use by both the cooperating teacher and university supervisor

Student Teacher Name JOANABELLE CAYABAN ZITA

Home University Philippine Normal University **City** Manila **Country** Philippines

Receiving School SMP Pelita Nusantara **City** Bandung **Country** Indonesia

Subject Teaching Mathematics **Grade Level** 7

Topic(s) for Lesson Social Arithmetic

Evaluator Name / Mentor Name Dian Ekasari S.Pd. / Al Jupri, Ph.D

Directions:

- This evaluation form should fill-out by the **mentor** together with **cooperating teacher**
- Please fill this evaluation form according the **class levels** and **subjects** that student's teacher taught
- For each criterion, please assess the student teacher's level of competence based on your observations and experience with the student. Please provide your assessment by using the following assessment scale. Also provide any specific examples or suggestions for the student teacher. Please remember that the **Competencies evaluated on this form are based on comparisons with the performance of other student teachers, not with those of experienced teachers.**

Note:
Assessment Scale:
4 – Advance. *Consistently exceeds* expectations
3 – Proficient. *Consistently meets* expectations
2 – Basic. *Partially meets* expectations
1 – Needs Improvement. Needs focused attention

Did the student teacher submit the lesson plan before teaching? ☑ Yes ☐ No

I. Content and organization of instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Knowledge of Subject Matter** The student teacher knows the subjects they are teaching, understands the central concepts, tools of inquiry, structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.		✓		
2	**Focus on Objective of the Lesson** The student teacher organizes and plans systematic instruction based upon knowledge of subject matter, pupils, and curriculum goals.		✓		
3	**Knowledge of How Students Learn** The student teacher understands how the learners differ in their approaches to learning and the barriers that impede learning and can adapt instructions to meet the diverse needs of learners, including those with disabilities and exceptionalities.		✓		
4	**Assessment of the Lessons** The student teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the pupil.	✓			

As of 15 January 2018

Comments on her/his strengths or weaknesses to improve in content and organization of instruction:

communication with the pupils more again, a lot of exercise, give a chance to answer to pupils another

II. Strategies and skills for effective instruction

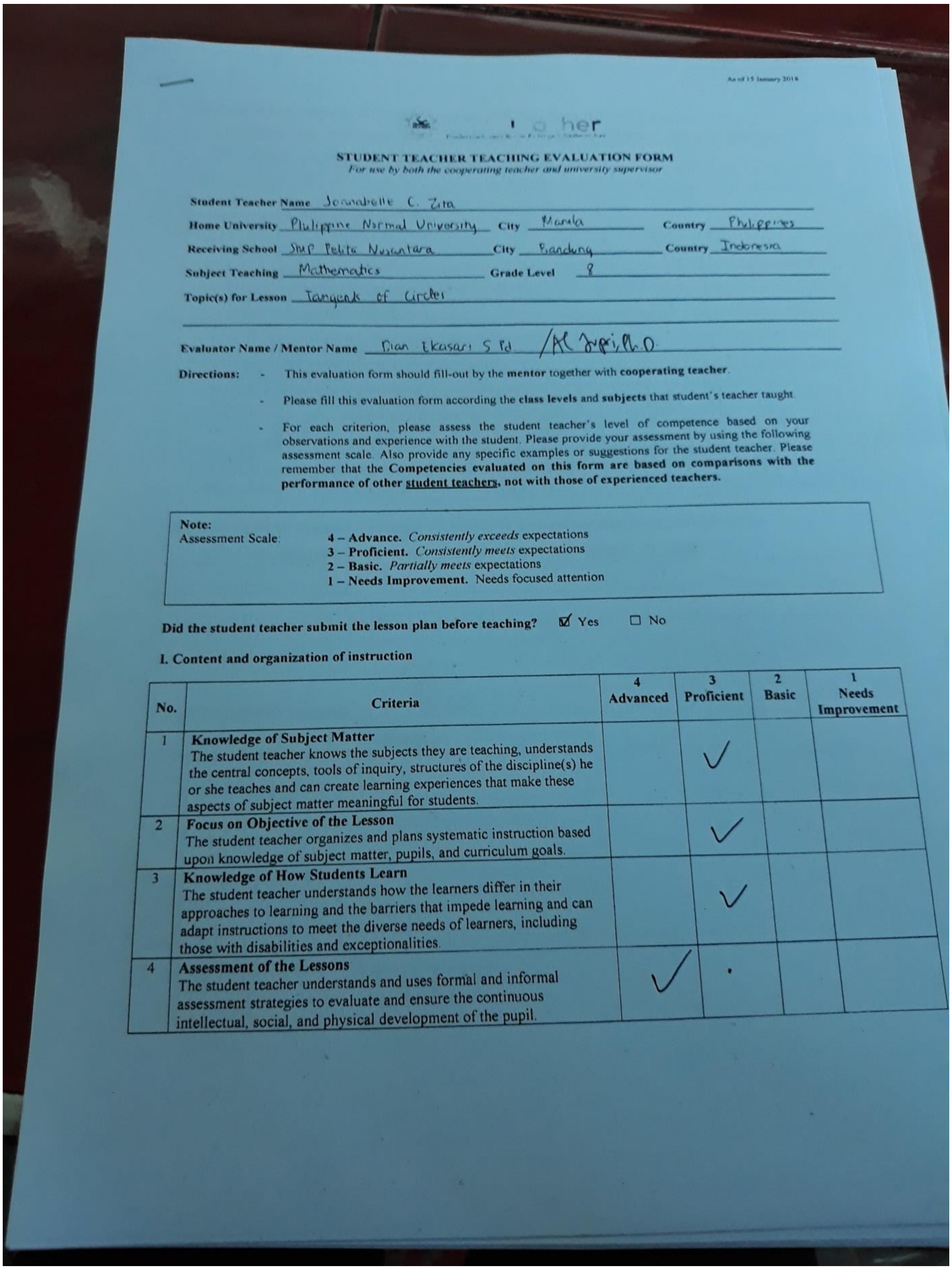
No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Instructional Strategies** Uses a variety of instructional strategies, including the use of technology, to encourage learners' development of critical thinking, problem solving, and performance skills.		✓		
2	**Communicative** Uses effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.		✓		
3	**Classroom Management** Manifests understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation and able to organizes time and resources into a learning environment that enable learners to learn in an equitable way.		✓		
4	**Discipline** Attends to learners' misbehavior in a positive manner, promotes self-esteem, responsibility, and mutual respect	✓			

Comments on her/his strengths or weaknesses to improve in strategies and skills for effective instruction:

Give an example of the problem that the number it easy

Supervisor's/Mentor's signature _____ Date 15/2/18

Cooperating Teacher's signature _____ Date _____



As of 15 January 2018

STUDENT TEACHER TEACHING EVALUATION FORM
For use by both the cooperating teacher and university supervisor

Student Teacher Name Joannabelle C. Zita
Home University Philippine Normal University **City** Manila **Country** Philippines
Receiving School SMP Pelita Nusantara **City** Bandung **Country** Indonesia
Subject Teaching Mathematics **Grade Level** 8
Topic(s) for Lesson Tangent of Circles

Evaluator Name / Mentor Name Dian Ekasari S.Pd / [signature]

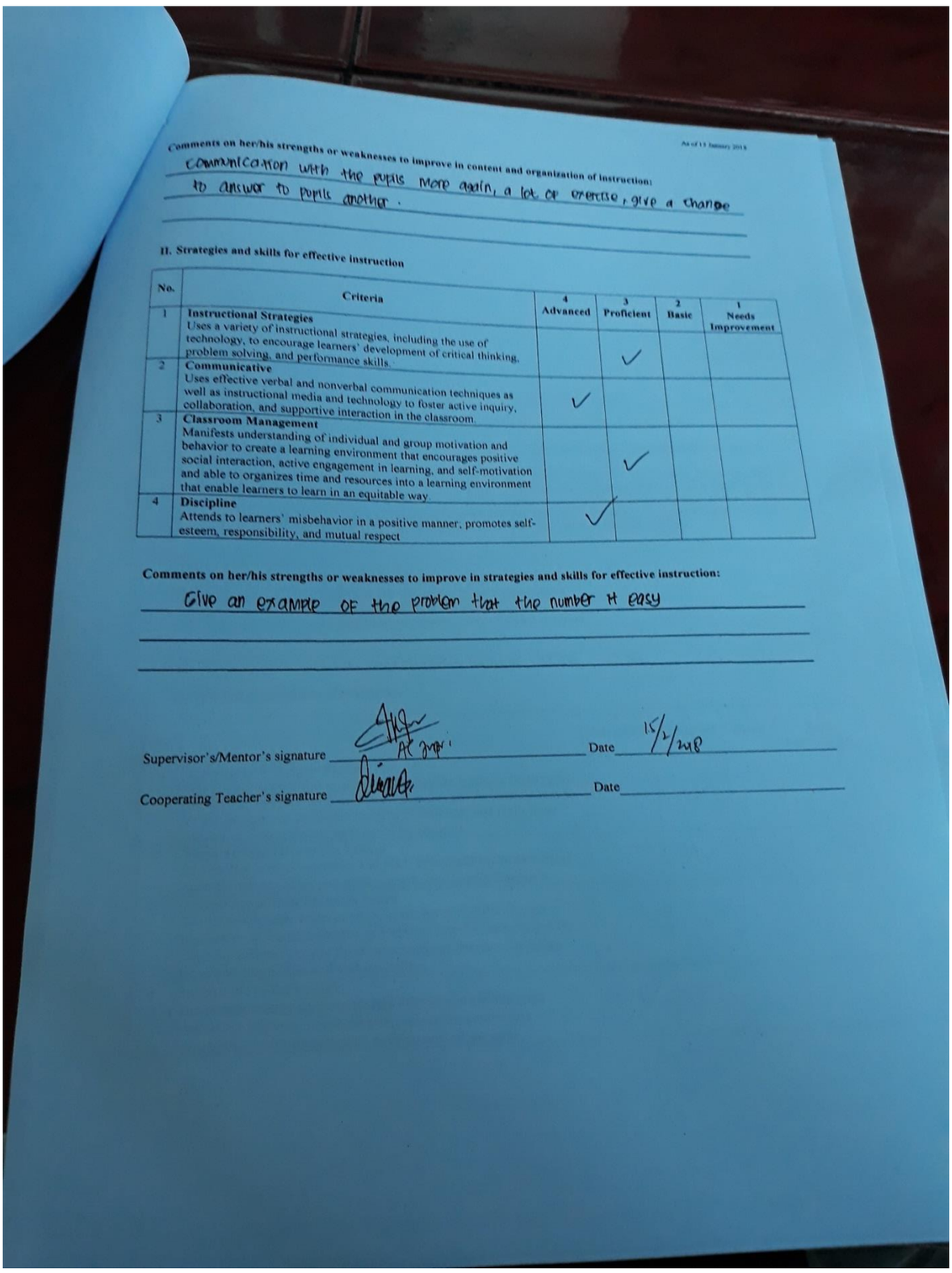
Directions:
- This evaluation form should fill-out by the **mentor** together with **cooperating teacher**.
- Please fill this evaluation form according the **class levels** and **subjects** that student's teacher taught.
- For each criterion, please assess the student teacher's level of competence based on your observations and experience with the student. Please provide your assessment by using the following assessment scale. Also provide any specific examples or suggestions for the student teacher. Please remember that the **Competencies evaluated on this form are based on comparisons with the performance of other student teachers, not with those of experienced teachers.**

Note:
Assessment Scale:
4 – Advance. *Consistently exceeds* expectations
3 – Proficient. *Consistently meets* expectations
2 – Basic. *Partially meets* expectations
1 – Needs Improvement. Needs focused attention

Did the student teacher submit the lesson plan before teaching? ☑ Yes ☐ No

I. Content and organization of instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Knowledge of Subject Matter** The student teacher knows the subjects they are teaching, understands the central concepts, tools of inquiry, structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.		✓		
2	**Focus on Objective of the Lesson** The student teacher organizes and plans systematic instruction based upon knowledge of subject matter, pupils, and curriculum goals.		✓		
3	**Knowledge of How Students Learn** The student teacher understands how the learners differ in their approaches to learning and the barriers that impede learning and can adapt instructions to meet the diverse needs of learners, including those with disabilities and exceptionalities.		✓		
4	**Assessment of the Lessons** The student teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the pupil.	✓			



As of 13 January 2015

Comments on her/his strengths or weaknesses to improve in content and organization of instruction:

communication with the pupils more again, a lot of exercise, give a change to answer to pupils another.

II. Strategies and skills for effective instruction

No.	Criteria	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
1	**Instructional Strategies** Uses a variety of instructional strategies, including the use of technology, to encourage learners' development of critical thinking, problem solving, and performance skills.		✓		
2	**Communicative** Uses effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.	✓			
3	**Classroom Management** Manifests understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation and able to organizes time and resources into a learning environment that enable learners to learn in an equitable way.		✓		
4	**Discipline** Attends to learners' misbehavior in a positive manner, promotes self-esteem, responsibility, and mutual respect	✓			

Comments on her/his strengths or weaknesses to improve in strategies and skills for effective instruction:

Give an example of the problem that the number M easy

Supervisor's/Mentor's signature _____ Date 15/1/2018

Cooperating Teacher's signature _____ Date _____

Republic of the Philippines
Philippine Normal University
The National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING
Manila

Practice Teaching Form 11A

Evaluation Checklist For Practice Teacher's Daily/Demonstration Teaching Performance

Name of Practice Teacher: Jeanabelle C. Zita — Yr. & Sec: IV-18 BME
Year & Subject Taught: Grade 9 Mathematics — Date: Feb. 23, 2018
Cooperating Teacher/University Supervisor: _____ SY: 2017-2018 Qtr: 4th

98-100	94-97	90-93	87-89	83-86	78-82	75-77	70 below

A. PERSONAL APPEARANCE (5%)								
1. Well-poised		✓						
2. Properly groomed		✓						
3. Good diction		✓						
4. Free of mannerisms		✓						
5. Pleasant disposition		✓						4.7

B. LESSON PLANNING (10%)								
1. Lesson plan contains relevant and appropriate activities			✓					
2. Lesson plan is well-written requiring minimum or no supervision			✓					
3. Neatness and proper format are observed			✓					
4. Lesson plan is submitted on time			✓					9.0

C. PREPARATION AND UTILIZATION OF INSTRUCTIONAL MATERIALS (10%)								
1. Instructional materials are appropriate for the activity given			✓					
2. Visual materials are clear, neat, and attractive			✓					
3. Instructional materials show the teacher's creativity and resourcefulness			✓					
4. Instructional materials are utilized properly and effectively			✓					9.0

D. CLASSROOM MANAGEMENT (5%)								
1. Pays attention on routine matters			✓					
2. Handles disciplinary problems effectively			✓					
3. Motivates and keeps student's attention and interest			✓					4.5

E. DIRECTING TEACHING-LEARNING SITUATION (70%)								
1. Makes effective introduction and motivation			✓					
2. Gives clear directions and logical explanations			✓					
3. Has mastery of the subject matter			✓					
4. Strategies well-planned and executed			✓					
5. Board work well done			✓					
6. Asks appropriate and different types of questions			✓					
7. Distributes questions properly			✓					
8. Provides varied learning tasks			✓					
9. Gives incidental teaching when necessary			✓					
10. Focuses student/s attention to important points of the lesson			✓					
11. Guides students in summarizing main ideas/concepts learned			✓					
12. Handles wrong answers tactfully			✓					
13. Provides appropriate reinforcement			✓					
14. Conducts written evaluation efficiently			✓					
15. Present homework/agreement properly			✓					63

TOTAL OF 100% 90.2

REMARKS:

1. She need to prepared visual aids for activity.
2. She forgot to discussed tangent law. where the missing is the side.
3. Provided variety of exercises for the students.
4. Follow Inquiry base instruction.

ROLANDO L. DECENA
Observer's Printed Name over Signature

Republic of the Philippines
Philippine Normal University
The National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING
Manila

Practice Teaching Form 11A

Evaluation Checklist For Practice Teacher's Daily/Demonstration Teaching Performance

Name of Practice Teacher: Joanabelle C. Zita — Yr. & Sec.: IV-18 BME
Year & Subject Taught: Grade 9 Mathematics (Circle and Sphere) — Date: Mar 1, 2018
Cooperating Teacher/University Supervisor: _____ — SY: 2017-2018 Qtr: 4th

98-100	94-97	90-93	87-89	83-86	78-82	75-77	70 below

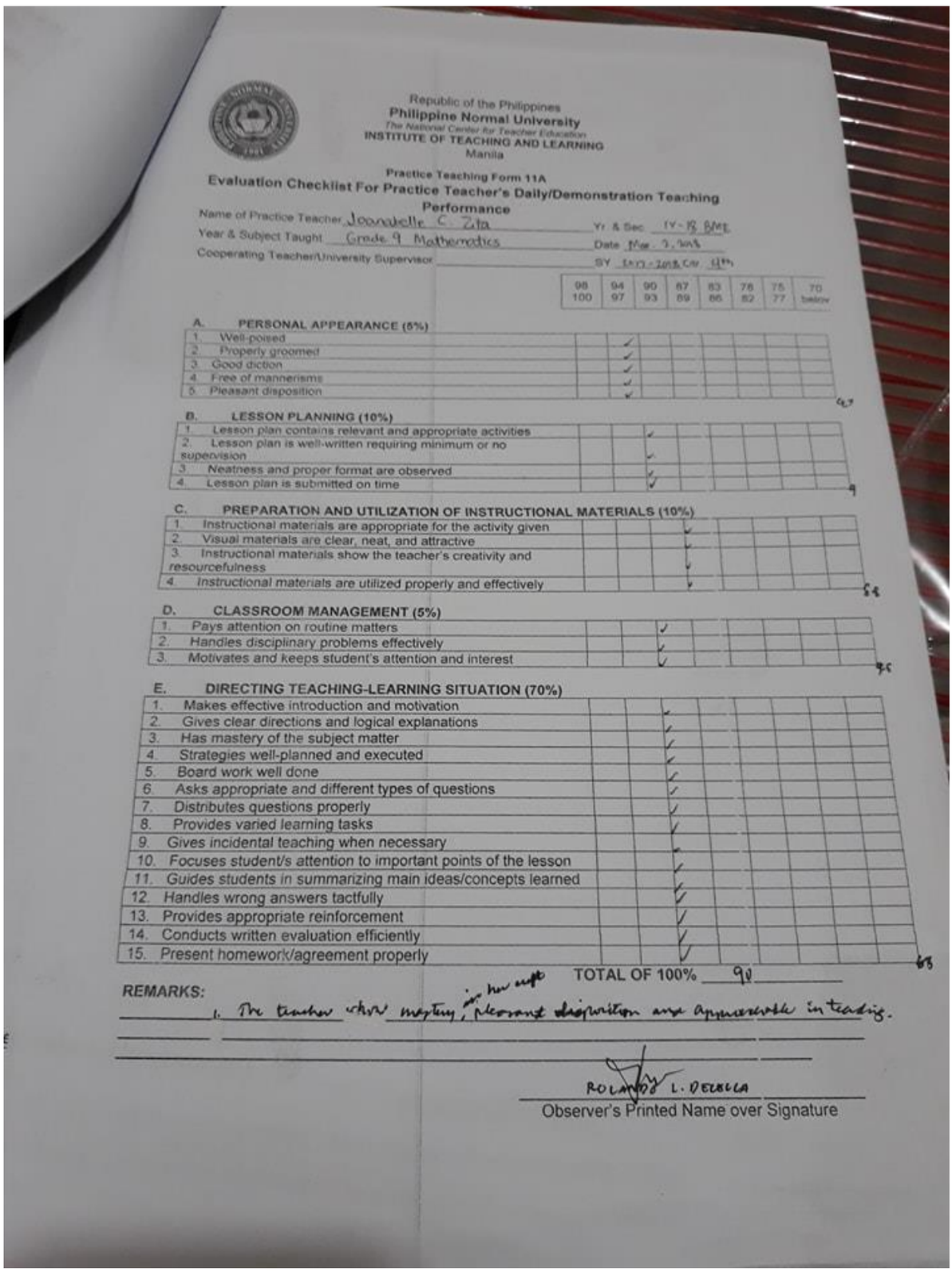
A. PERSONAL APPEARANCE (5%)									
1. Well-poised			✓						
2. Properly groomed			✓						
3. Good diction			✓						
4. Free of mannerisms			✓						
5. Pleasant disposition			✓						4.5
B. LESSON PLANNING (10%)									
1. Lesson plan contains relevant and appropriate activities			✓						
2. Lesson plan is well-written requiring minimum or no supervision			✓		✓				
3. Neatness and proper format are observed			✓						
4. Lesson plan is submitted on time			✓						9
C. PREPARATION AND UTILIZATION OF INSTRUCTIONAL MATERIALS (10%)									
1. Instructional materials are appropriate for the activity given				✓					
2. Visual materials are clear, neat, and attractive				✓					
3. Instructional materials show the teacher's creativity and resourcefulness				✓					
4. Instructional materials are utilized properly and effectively				✓					8.8
D. CLASSROOM MANAGEMENT (5%)									
1. Pays attention on routine matters			✓						
2. Handles disciplinary problems effectively			✓						
3. Motivates and keeps student's attention and interest			✓						4.5
E. DIRECTING TEACHING-LEARNING SITUATION (70%)									
1. Makes effective introduction and motivation			✓						
2. Gives clear directions and logical explanations			✓						
3. Has mastery of the subject matter			✓						
4. Strategies well-planned and executed			✓						
5. Board work well done				✓					
6. Asks appropriate and different types of questions			✓						
7. Distributes questions properly			✓						
8. Provides varied learning tasks				✓					
9. Gives incidental teaching when necessary			✓						
10. Focuses student/s attention to important points of the lesson			✓						
11. Guides students in summarizing main ideas/concepts learned			✓						
12. Handles wrong answers tactfully			✓						
13. Provides appropriate reinforcement				✓					
14. Conducts written evaluation efficiently			✓						
15. Present homework/agreement properly				✓					62.44

TOTAL OF 100% 88.94

REMARKS:

1. The teacher shows how prepared visual aid for the students easily catch up with the lesson
2. Variation of exercises should give to the students for more understanding

A. F. ESPELETA
Observer's Printed Name over Signature



Republic of the Philippines
Philippine Normal University
The National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING
Manila

Practice Teaching Form 11A

Evaluation Checklist For Practice Teacher's Daily/Demonstration Teaching Performance

Name of Practice Teacher: Joannelle C. Zita — Yr & Sec: IV-B BME
Year & Subject Taught: Grade 9 Mathematics — Date: Mar. 3, 2015
Cooperating Teacher/University Supervisor: _____ — SY: 2013-2015 Cor 4th

98-100	94-97	90-93	87-89	83-86	78-82	75-77	70 below

A. PERSONAL APPEARANCE (5%)

1. Well-poised		✓						
2. Properly groomed		✓						
3. Good diction		✓						
4. Free of mannerisms		✓						
5. Pleasant disposition		✓						

B. LESSON PLANNING (10%)

1. Lesson plan contains relevant and appropriate activities			✓					
2. Lesson plan is well-written requiring minimum or no supervision			✓					
3. Neatness and proper format are observed			✓					
4. Lesson plan is submitted on time			✓					

C. PREPARATION AND UTILIZATION OF INSTRUCTIONAL MATERIALS (10%)

1. Instructional materials are appropriate for the activity given			✓					
2. Visual materials are clear, neat, and attractive			✓					
3. Instructional materials show the teacher's creativity and resourcefulness			✓					
4. Instructional materials are utilized properly and effectively			✓					

D. CLASSROOM MANAGEMENT (5%)

1. Pays attention on routine matters			✓					
2. Handles disciplinary problems effectively			✓					
3. Motivates and keeps student's attention and interest			✓					

E. DIRECTING TEACHING-LEARNING SITUATION (70%)

1. Makes effective introduction and motivation			✓					
2. Gives clear directions and logical explanations			✓					
3. Has mastery of the subject matter			✓					
4. Strategies well-planned and executed			✓					
5. Board work well done			✓					
6. Asks appropriate and different types of questions			✓					
7. Distributes questions properly			✓					
8. Provides varied learning tasks			✓					
9. Gives incidental teaching when necessary			✓					
10. Focuses student/s attention to important points of the lesson			✓					
11. Guides students in summarizing main ideas/concepts learned			✓					
12. Handles wrong answers tactfully			✓					
13. Provides appropriate reinforcement			✓					
14. Conducts written evaluation efficiently			✓					
15. Present homework/agreement properly			✓					

TOTAL OF 100% 91

REMARKS:

1. The teacher show mastery in her subject, pleasant disposition and approachable in teaching.

ROLANDO L. DELOLLA
Observer's Printed Name over Signature

Republic of the Philippines
Philippine Normal University
The National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING
Manila

Practice Teaching Form 11A

Evaluation Checklist For Practice Teacher's Daily/Demonstration Teaching Performance

Name of Practice Teacher Joanabelle C. Zita Yr. & Sec IV-18 BME
Year & Subject Taught Grade 9 Mathematics (Angle ~~Angle~~) Mar. 5, 2018
Cooperating Teacher/University Supervisor _____ SY 2017-2018 Qtr. 4th

98 100	94 97	90 93	87 89	83 86	78 82	75 77	70 below

A. PERSONAL APPEARANCE (5%)

1. Well-poised		✓						
2. Properly groomed		✓						
3. Good diction		✓						
4. Free of mannerisms		✓						
5. Pleasant disposition		✓						

4.7

B. LESSON PLANNING (10%)

1. Lesson plan contains relevant and appropriate activities			✓					
2. Lesson plan is well-written requiring minimum or no supervision			✓					
3. Neatness and proper format are observed			✓					
4. Lesson plan is submitted on time			✓					

9

C. PREPARATION AND UTILIZATION OF INSTRUCTIONAL MATERIALS (10%)

1. Instructional materials are appropriate for the activity given				✓				
2. Visual materials are clear, neat, and attractive				✓				
3. Instructional materials show the teacher's creativity and resourcefulness				✓				
4. Instructional materials are utilized properly and effectively				✓				

8.8

D. CLASSROOM MANAGEMENT (5%)

1. Pays attention on routine matters			✓					
2. Handles disciplinary problems effectively			✓					
3. Motivates and keeps student's attention and interest			✓					

4.5

E. DIRECTING TEACHING-LEARNING SITUATION (70%)

1. Makes effective introduction and motivation			✓					
2. Gives clear directions and logical explanations			✓					
3. Has mastery of the subject matter			✓					
4. Strategies well-planned and executed			✓					
5. Board work well done			✓					
6. Asks appropriate and different types of questions			✓					
7. Distributes questions properly			✓					
8. Provides varied learning tasks			✓					
9. Gives incidental teaching when necessary			✓					
10. Focuses student/s attention to important points of the lesson			✓					
11. Guides students in summarizing main ideas/concepts learned			✓					
12. Handles wrong answers tactfully			✓					
13. Provides appropriate reinforcement			✓					
14. Conducts written evaluation efficiently			✓					
15. Present homework/agreement properly			✓					

TOTAL OF 100% 96

63

REMARKS:

1. She can manage to teach without visual aid.
2. Over variation of exercise about double angle.
3. She maintain her posture in front of the class

R.L. DECOLLA
Observer's Printed Name over Signature

DOMAIN 5 ASSESSMENT AND REPORTING

Strands:

1. Design, selection, organization and utilization of assessment strategies
2. Monitoring and evaluation of learner progress and achievement
3. Feedback to improve learning
4. Communication of learner needs, progress and achievement to key stakeholders
5. Use of assessment data to enhance teaching and learning practices and programs

REFLECTIONS

In designing, selecting, organizing and utilizing of assessment strategies, I realized that time, variation and sufficiency is one thing I should consider. Assessment is where we really know whether students learned the lesson or not. It is important to have a sufficient exercises and sufficient evidences how well the students learn your lesson in spite of limited time. I also realized that you cannot clearly see how well students learn through limited and undifferentiated exercises because students have different abilities and if those abilities don't significantly match to your exercises, even though some students learned your lesson, they cannot be able to show it on your exercises, thus, they will not learn optimally.

In monitoring learner evaluation of learner progress and achievement, I firmly realized that it is easier for me to see the performance of the students through recording the percentage scores rather than the raw scores. Even though that is just a formative assessment, recording the students' scores in percentages will make you reflect even better on planning your lesson rather than seeing their raw scores (but it is also convenient if the total raw score is on the multiples of 10).

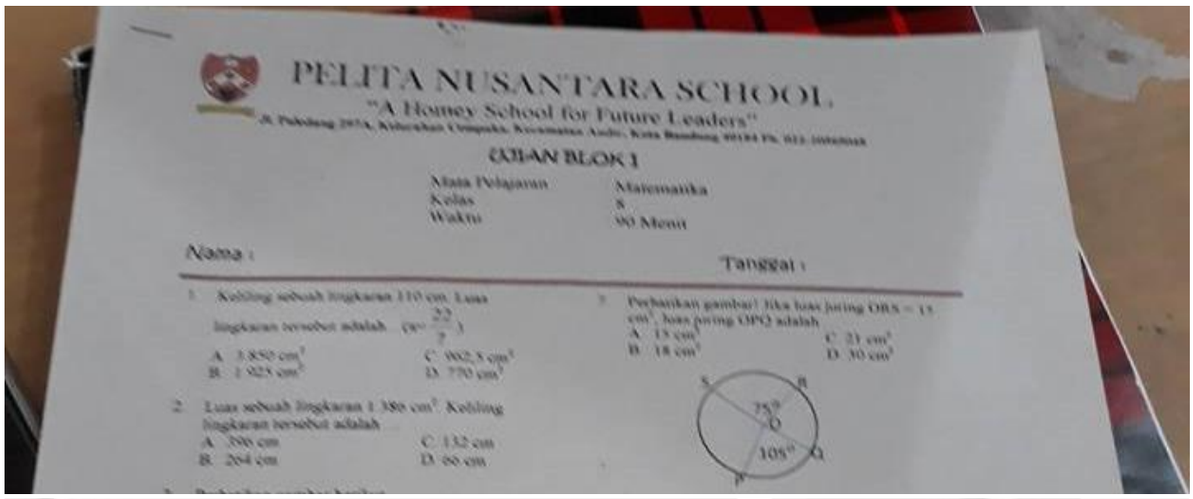
On feedback to improve learning, giving immediate feedback to the students will able for them to correct their mistakes so they will not repeat those mistakes in the succeeding lessons.

It is important to make your class record as neat and as presentable as possible when communicating your learners' needs, progress and achievements to key stakeholders such as students, co-teachers, school authority as well as parents and guardians. In quizzes, it will be appreciative to the students if you will make notes on their solution as well as how many points you will give on each item.

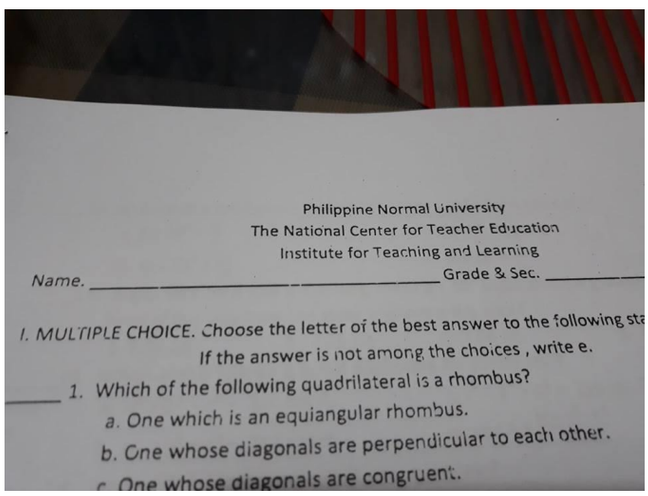
On the use of assessment data to enhance teaching and learning practices and programs, this is one of the reliable data for you to reflect on how to improve your teaching, as well as the learning of the students in the current and succeeding lessons, considering the methods and approaches that you will use and ways to uplift the affective aspect of the students especially in mathematics.

EVIDENCES

Block exam administration (January 26, 2018)


PELITA NUSANTARA SCHOOL
"A Homey School for Future Leaders"
UJIAN BLOK 1
Mata Pelajaran : Matematika
Kelas : 8
Waktu : 90 Menit
Nama :
Tanggal :

Unit test administration (February 26, 2018)


Philippine Normal University
The National Center for Teacher Education
Institute for Teaching and Learning
Name. _____ Grade & Sec. _____
I. MULTIPLE CHOICE. Choose the letter of the best answer to the following sta
If the answer is not among the choices , write e.
_____ 1. Which of the following quadrilateral is a rhombus?
a. One which is an equiangular rhombus.
b. One whose diagonals are perpendicular to each other.
c. One whose diagonals are congruent.

Sample Class Records

SMP/SMA PELITA NUSANTARA
DAFTAR HADIR SISWA
SEMESTER ___ TAHUN AJARAN 2017/2018

Grade 7
Semester :
Absensi Bulan :
Wali Kelas : Dwi Rizky Wijayanti, S.Pd (085720391877)

No	Nama	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	Angelica Maulidina Putri	90	90	100																												
2	Farrel Javier Tamir	90	100	100																												
3	Fawwaz Adrian Auliyarrahman	100	100	100																												
4	Gerandi Aldriano Mahar	100	100	100																												
5	Kenny Irenanda Prabawan																															
6	M Ricky R I			100																												
7	Otik																															
8	Razan Rizkirahman Zukhruf	100	100	100																												

Mengetahui
Kepala Sekolah

Tantan Rustandi, S.Pd
NIK. 51091285

Bandung, ... 20....
Guru Mata Pelajaran

NIK.

SMP/SMA PELITA NUSANTARA
DAFTAR HADIR SISWA
SEMESTER ___ TAHUN AJARAN 2017/2018

8A
Semester :
Absensi Bulan :
Wali Kelas : Dian Ekasari, S.Pd (089655202654)

No	Nama	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	Adrian		90	100																												
2	Athasya Syakira	100	100	90																												
3	Dewi Ayu Lestari	100	90	100																												
4	Gavin Atala		100																													
5	Jasmine Wijayanti K.	100	100	100																												
6	Panji Birowo		90	100																												
7	Qeiz Ahmad Gibran	100	100																													
8	Rachel Nadya Shinta	100	100																													
9	Refa Kalani Garfidelya	100	90	100																												
10	Reva Ikhsandi M																															
11	Sabrina Nasywan Alfiando		100	100																												
12	Satria	90	85	100																												

Mengetahui
Kepala Sekolah

Tantan Rustandi, S.Pd
NIK. 51091285

Bandung, ... 20....
Guru Mata Pelajaran

NIK.

SMP/SMA PELITA NUSANTARA
DAFTAR HADIR SISWA
SEMESTER ___ TAHUN AJARAN 2017/2018

8B
Semester :
Absensi Bulan :
Wali Kelas : Dian Ekasari, S.Pd (089655202654)

No	Nama	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	Andina Hanum Asri	100		100																												
2	Ayasha Balvaedrea	100	100																													
3	Ayesha Santoso	100	95	100																												
4	Cleo	100	95																													
5	Felisha Amanda Maharani	100	100	100																												
6	Ferry																															
7	Freya Deviannefadila P	100	95																													
8	Fyndra Akmal Fauzan Alwi	100	90	100																												
9	M Firas Imanandika	100	100																													
10	Ratu Ayu Amey Lita W	100	90	100																												
11	Sabda Raya Zavir Anaoi	95	100	95																												
12	Shandi Apriano	100	90	95																												

Mengetahui
Kepala Sekolah

Tantan Rustandi, S.Pd
NIK. 51091285

Bandung, ... 20....
Guru Mata Pelajaran

NIK.

DOMAIN 6 COMMUNITY LINKAGES AND PROFESSIONAL ENGAGEMENT

Strands:

1. Establishment of learning environments that is responsive to community contexts
2. Engagement of parents and the wider school community in the educative process
3. Professional ethics
4. School policies and procedures

REFLECTIONS

In establishment of learning environment that is responsive to community contexts, I realized that it is important to know the vision and philosophy of the school because these will the bases to establish the learning environment of the students. In the case of Pelita Nusantara School, the school provides "a homey school for future leaders", a conducive environment

In engagement of parents and the wider school community in the educative process, seek help from the authority if you will communicate with the parents and other people. Parents have a relevant role to mold their children to become best persons they can be. You cannot do it alone.

In professional ethics, do your best to choose the right words, to be in your best attitude and personality, to be straightforward but nice and to give criticisms constructively for it will affect your overall performance to the people concerned and there's a tendency to lose their trust in you.

In school policies and procedures, it is important to read carefully those for this is the system of the school and this will affect the way you manage the classroom as well as the other students and the school surroundings.

EVIDENCES

School Orientation and Assembly in SMP Pelita Nusantara

DOMAIN 7 PERSONAL GROWTH AND PROFESSIONAL DEVELOPMENT

Strands:

1. Philosophy of teaching
2. Dignity of teaching as a profession
3. Professional links with colleagues
4. Professional reflection and learning to improve practice
5. Professional development goals

REFLECTIONS

Building personal and professional networks outside the country is a really big jumpstart for me to learn different culture and educational system. Thus, I will have broader perspective in mathematics education and I can establish my teaching style consisting of combination of strategies and methods that I learned in researches and real-life teaching experiences.

In spite of being a jolly, happy-go-lucky and very approachable person, I must remember that I'm a teacher and I have a huge responsibility for the students and the society. I must instill dignity and integrity to my surroundings. I am a role model not just to students but also the ordinary people surrounding me.

My teaching practicum in Indonesia and in ITL also reminds me that I must keep in touch with my mentors and cooperating teachers, as well as my co-practice teachers, friends from Indonesia and co-participants from the SEA Teacher program for this will be beneficial in the future when I become a professional teacher.

Even though I am finished with my off-campus teaching practicum, I still have to keep on reflecting when I already teach, take note of the things that I need to improve, make my weaknesses my strengths in the next days of teaching and make my strengths still my strengths. In my case, I need to have my visual aids in teaching, have variety of exercises, increase my interactions with my students and finish my activities within one hour.

I, as a future math educator do not limit on teaching in classroom. A math educator continues to grow personally and professionally so definitely, I have my professional development goals. My ultimate goals as a math educator are (1) to be the most effective mathematics educator that I can be and (2) share what I've learned in mathematics education to the people especially the aspiring math educators and parents who will up bring their child to become best persons they can be.

EVIDENCES

Republic of the Philippines
Philippine Normal University
The National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING
Manila

Practice Teaching Form 3

PT Competencies/Philosophy

A. Circle the items which you think you are already competent in. Indicate what you think is the level of your competence by checking the appropriate column, where **3** is the highest and **0** is the lowest.

Items	0	1	2	3
Personal Qualities: Shows awareness of				
1. Good grooming				☑
2. Having self-confidence				☑
3. Articulating one's ideas clearly in grammatically correct manner				☑
4. Having sense of humor			☑	
5. Cheerful performance of tasks				☑
Professional Orientation: Possesses knowledge of:				
1. Being responsible for one's behavior			☑	
2. Moral and legal responsibilities of PTs				☑
3. Accepting praise/suggestions/criticisms objectively				☑
4. Current trends/issues/concerns/practices in teaching				☑
5. The need for having pride in being a teacher				☑
6. Dealing well with students, peers, parents, CTs, school and community officials				☑
Observation skills				
1. Identifies objectives/teaching strategies				☑
2. Determines adequacy/appropriateness of teaching materials				☑
3. Describes teacher's skills and behavior that facilitates learning				☑
4. Describes pupils' behavior that help/disrupt				☑

learning				
5. Forms insights/conclusions about teacher's and learner's characteristics, classroom atmosphere, etc.				☑
Lesson Planning				
1. Translating broad educational goals into specific instructional objective				☑
2. Writing specific measurable objective				☑
3. Breaking down the components of the learning tasks into sequential order				☑
4. Designing relevant teaching experiences				☑
5. Developing teaching devices/aids				☑
6. Giving careful attention to cleanliness and orderliness, and the physical condition/arrangement in the classroom				☑
Instruction				
1. Teaches with minimum of lesson outline				☑
2. Sustains learner's interest thru varied voice projection and gestures and activities				☑
3. Provides adequate and accurate information about lesson				☑
4. Acknowledges/responds to learners' reaction/questions				☑
5. Demonstrates skills in using questioning techniques				☑
Management of Learner's Learning				
1. Motivates learners by:				
• Explaining lesson objectives				☑
• Conducting appropriate drills/review				☑
• Relating lessons to previous one				☑
• Utilizing varied devices/activities				☑
• Using well-modulated voice				☑
• Utilizing instructional materials that are organized, neat, attractive				☑
• Keeping records (all school forms and test results)				☑

• Establishing/maintaining reasonable rules of conduct in the classroom				☑
• Handling discipline with tact and good judgment				☑
• Observing time allotment				☑
• Giving clear appropriate directions/uses appropriate methods				☑
• Presenting lesson logically/systematically				☑
• Providing reinforcement activities				☑
• Leading learners to form generalizations				☑
• Correcting easy errors as observed				☑
Evaluating Learning Activities				
1. Constructs test congruent to lesson objective				☑
2. Keeps evaluation records				☑
3. Selects/administers/scores tests				☑

Submitted by: Joanabelle C. Zita

Year & Section: IV-18 BME

Republic of the Philippines
Philippine Normal University
The National Center for Teacher Education
INSTITUTE OF TEACHING AND LEARNING
Manila

Practice Teaching Form 4

PT's Philosophy of Teaching

Consider how strongly you agree or disagree with the following statements, using this scale: 5 – strongly agree, 4 – agree, 3 – neutral, 2 – disagree, 1 – disagree strongly.

5 1. The most important role of a teacher is to be a model for intellectual and moral excellence in the classroom.

3 2. By studying humans in their natural settings, we can discover universal moral laws.

4 3. Although truth is changeable, we can discover it by using scientific method.
3 4. The main question teachers ask student is "What does this idea or content mean to you?
4 5. Although vocational studies have their place, most students should be required to have a strong liberal arts education.
5 6. The most important task for a teacher is to promote reasoning within a particular content area.
5 7. The role of the teacher is to engage students in active problem solving applied to social and personal problems.
2 8. Truth is subjective and based on personal experiences and beliefs.
4 9. There are enduring and unchanging truths and values in all subject areas that students need to understand.
5 10. To learn facts and truth in a content area, teachers may need to use considerable drill and practice.
5 11. Use of the scientific method is a major role of education.
4 12. The teacher's primary role is to enable students to create their own values.
4 13. Students learn best when they study the ideas and the works of great people.
5 14. There is enduring truth in all subject areas that students can discover by careful reasoning.
3 15. When deciding what curriculum should be emphasized for students, decision should be based on real-life usefulness of the content.
3 16. If forced to choose between covering the content and exploring personal perspective, a teacher should choose personal exploration.
3 17. Time-tested great literary works should be a required reading for all students even at the expense of more popular readings.
3 18. The curriculum should be based on the "basics" and rely on drill and memorization as learning strategies.
4 19. The most important role of the teacher is to facilitate reflection and use the scientific method to solve problems.
4 20. The most important concept to explore with students in the classroom evolves around love, freedom, responsibility and values.

Transfer your scores to this chart and add each column.

	A Idealism		B Realism		C Pragmatism		D Existentialism	
	1	**5**	2	**3**	3	**4**	4	**3**
	5	**4**	6	**5**	7	**5**	8	**2**
	9	**4**	10	**5**	11	**5**	12	**4**
	13	**4**	14	**5**	15	**3**	16	**3**
	17	**3**	18	**3**	19	**4**	20	**4**
TOTAL SCORE		**20**		**21**		**21**		**16**

How much did you agree or disagree with the educational philosophies discussed in this chapter? Each column represents one of the philosophies of learning: A = idealism, B = realism, C = pragmatism, D = existentialism. The more points you have in each column, the more your own philosophy matches with established philosophies. The highest possible score in any column is 25, and the lowest is 5. A score of 20 or above in any column indicates strong agreement, whereas a score of less than 10 indicates little agreement. Where are your highest scores, and where are your lowest? Is your own philosophy highly representative to the classical ways of thinking about education, or do you have a tendency to embrace more than one philosophical stance?

My highest scores are in Realism and Pragmatism which both have a score of 21. The lowest score is in Existentialism which has a score of 16. Based on this survey and my personal perception, I absolutely have the tendency to embrace more than one philosophical stance in education. Having the right combination of my philosophical stances with certain degrees will enable me to teach and learn more effectively.


Dr. Jupri's lecture on Geometric Transformations

International Student Association (ISA) olympic 2018

Together with my cooperating teachers in Indonesia; Ms. Fika Anggia Pertiwi S. Pd. and Ms. Dian Ekasari S. Pd.

CAREER TIMELINE

(MY PROFESSIONAL DEVELOPMENT GOALS)

Five years after graduation, I will…

- be a licensed professional teacher.
- be a Proficient Teacher.
- finish a Master's degree either in Mathematics or Mathematics Education.
- coach students who will compete in various math competitions and math Olympiads.

Ten years from now, I will…

- be a PhD holder.
- be a Highly Proficient Teacher.
- present my future researches in the fields of mathematics and mathematics education in various national and international conferences.
- teach in the tertiary level.

Fifteen years from now, I will…

- be a Distinguished Teacher.
- be a Professor and teach in a Graduate School.
- continue to conduct researches in mathematics and mathematics education.

For fifteen years and beyond, I will…

- continue to develop myself, update myself on the trends and challenges of education through attending various conferences, etc.
- pursue postdoctoral studies and graduate studies on other related fields.

IN RETROSPECTION

There are myriad of ways to teach, there are various strategies to teach effectively, there are approaches to manage a class and there are many methods for the students to be assessed whether how much they have learned from you. However, one must consider the learning environment and choose what the best practices among them are so that the students can achieve optimal learning. As your students learn from you, you should also learn from them. Make your students and the society your inspiration to continually learn!

In addition, teaching mathematics is multidisciplinary. As you teach mathematics, you teach languages since it requires comprehension, social studies since the students can also learn more about the society and values since every problem needs to be dealt with good values to come up with the best solution.

MY PHILOSOPHY IN TEACHING

Majority of the learning of the students will come from the students themselves. The role of the teacher is to extract them and utilize them for the students to learn the lesson you will to teach and let them collaborate with each other to come up with a new knowledge that the students will use in the near future.

In my experience in teaching, I have learned a lot from my students, as well as from my supervising instructor, co-practice teachers, faculty and staff in Philippines and in Indonesia. Students in Indonesia are used to voice out their thoughts and actively ask questions. If they don't really understand the lesson, they will say that they don't understand the lesson. If they want to share, they will share with people surrounding them. In the Philippines, the students also learn from their classmates even during classroom discussions.

In Practice Teaching 2, I had two significant experiences that helped me develop this philosophy: (1) my teaching practicum experience in Indonesia and Philippines and (2) application of what I learned to my daily encounter with my students in the classroom. From my teaching practicum experience in Indonesia and Philippines, I was able to compare and contrast the two countries especially the educational system. The people in Indonesia didn't tell me those similarities and differences but I learned them through my curiosity and observation. I shared it to my mentor and he utilized it in order to enrich what I learned there and I am able to remember it even when I came back to the Philippines. In application of what I learned to my daily encounter with my students in the classroom, I believe that the students learn from me (not just only in mathematics) and this will be propagated when students continue to be curious, observant and collaborative.