

8

Lesson Exemplar for Mathematics

Quarter 3

Lesson

7

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Lesson Exemplar for Mathematics Grade 8
Quarter 3: Lesson 7 (Week 7)
SY 2025-2026

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Development Team

Writer:

- Yahweh M. Pasahol (Pedro Guevara Memorial National High School)

Validator:

- Ysmael V. Caballas (Philippine Normal University – South Luzon)

Management Team

Philippine Normal University
Research Institute for Teacher Quality
SiMERR National Research Centre

Every care has been taken to ensure the accuracy of the information provided in this material. For inquiries or feedback, please write or call the Office of the Director of the Bureau of Learning Resources via telephone numbers (02) 8634-1072 and 8631-6922 or by email at blr.od@deped.gov.ph.

MATHEMATICS / QUARTER 3 / GRADE 8

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES

A. Content Standards	The learners demonstrate knowledge and understanding of systems of linear equations in two variables.
B. Performance Standards	By the end of the quarter, the learners are able to solve a system of linear equations graphically and algebraically. (NA)
C. Learning Competencies and Objectives	Learning Competency At the end of the lesson, the learners are able to: 1. solve problems involving systems of linear equations in two variables. <i>Lesson Objective 1: Translate real-life problems into systems of linear equations.</i> <i>Lesson Objective 2: Use systems of linear equations in two variables to solve word problems.</i> <i>Lesson Objective 3: Apply different methods of solving systems of linear equations in two variables to solve word problems.</i>
D. Content	Solving word problems involving systems of linear equations in two variables
E. Integration	

II. LEARNING RESOURCES

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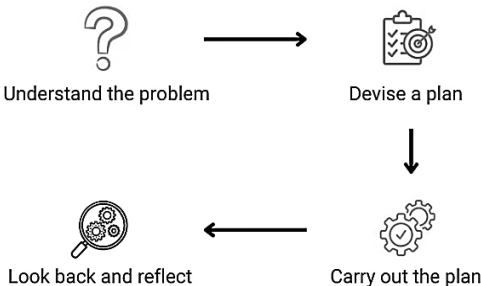
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III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	DAY 1 1. Short Review Refer to the Worksheet Activity No. 1 2. Feedback (Optional)	Answer: A. 1. consistent and independent 2. consistent and dependent 3. inconsistent 4. inconsistent 5. consistent and independent B. 1. D 2. A 3. F 4. C 5. B
B. Establishing Lesson Purpose	1. Lesson Purpose Questions: - What are the different methods in solving systems of linear equations in two variables that you have recalled in the short review? - Were you able to solve all the given systems of linear equations in two variables correctly? What about if these methods of solving systems of linear equations are applied to problem-solving, how will you find the answer to word problems? Do you know George Polya's four-step problem-solving strategies? These steps will help solve problems involving systems of linear equations in two variables.  2. Unlocking Content Vocabulary	Answers: - Solving systems of linear equations by graphing, by elimination and by substitution. - Yes.

C. Developing and Deepening Understanding

SUB-TOPIC 1: Number Problems and Geometric Problems

1. Explicitation

Read and analyze the comic strip.



If you were Tim, how will you solve the problem to get the treat from Ma'am P?

Image Source: Canva -Red Hand Drawn Classroom Phrases Comic Strip

2. Worked Example

NUMBER PROBLEMS

Example 1: The sum of two numbers is twelve and their difference is six. Find the numbers.

Solution:

Let x = one the number
 y = the other number

For the sum of two numbers:

$$x + y = 12$$

For the difference of two numbers:

$$x - y = 6$$

$$\begin{array}{r} x + y = 12 \\ (+) x - y = 6 \\ \hline 2x = 18 \\ 2x = 18 \\ \hline 2 = 2 \\ \hline x = 9 \end{array}$$

Step 1:

Understand the problem.

Step 2:

Devise a plan by representing the unknown quantities.

Form equations from the representations.

Step 3:

Carry out the plan by solving the system of linear equation.

(Using elimination method)

9 is one of the numbers.

$$\begin{aligned}
 x + y &= 12 \\
 (9) + y &= 12 \\
 y &= 12 - 9 \\
 \mathbf{y} &= \mathbf{3}
 \end{aligned}$$

The numbers are 9 and 3.

$$\begin{array}{ll}
 x + y = 12 & x - y = 6 \\
 (9) + (3) = 12 & (9) - (3) = 6 \\
 12 = 12 & 6 = 6
 \end{array}$$

3 is the other number.

Step 4:
Look back and reflect. Check if the solution satisfies the given equations of the system.

Since the solution satisfies the equations of the system, then **the numbers are 9 and 3.**

Example 2: One number is twice another. The sum of the numbers is 51. Find the numbers.

Solution:

Let x = the greater from the two numbers

y = the smaller number

One number is twice another.

$$x = 2y$$

The sum of the two numbers is 51.

$$x - y = 51$$

$$x = 2y$$

$$\text{Standard form: } x - 2y = 0$$

$$\begin{array}{r}
 x - 2y = 0 \\
 (-) \quad x - y = 51 \\
 \hline
 -3y = -51 \\
 \frac{-3y}{-3} = \frac{-51}{-3} \\
 \mathbf{y = 17}
 \end{array}$$

$$x = 2y$$

$$x = 2(17)$$

$$\mathbf{x = 34}$$

The numbers are 34 and 17.

Step 1:
Understand the problem.

Step 2:
Devise a plan by representing the unknown quantities.

Form equations from the representations.

Step 3:
Carry out the plan by solving the system of linear equation.

(Using elimination method)

17 is the smaller number.

34 is the greater from the two number.

$$\begin{array}{rcl} x + y & = & 51 \\ (34) + (17) & = & 51 \\ 51 & = & 51 \end{array} \quad \begin{array}{rcl} x & = & 2y \\ 34 & = & 2(17) \\ 34 & = & 34 \end{array}$$

Step 4:
Look back and reflect. Check if the solution satisfies the given equations of the system.

Since the solution satisfies the equations of the system, then **the numbers are 34 and 17.**

GEOMETRIC PROBLEMS

Example 1: Two angles are complementary. The larger angle is six more than twice the smaller. Find the angles.

Solution:

Let x = the smaller angle
 y = the larger angle

For the sum of two complementary angles: $x + y = 90$

For the “larger angle is six more than twice the smaller”: $y = 6 + 2x$

$$x + y = 90$$

$$y = 6 + 2x$$

$$x + y = 90$$

$$x + (6 + 2x) = 90$$

$$3x + 6 = 90$$

$$3x = 90 - 6$$

$$3x = 84$$

$$\frac{3x}{3} = \frac{84}{3}$$

$$\mathbf{x = 28}$$

$$y = 6 + 2x$$

$$y = 6 + 2(28)$$

$$y = 6 + 56$$

$$\mathbf{y = 62}$$

The angles are 28° and 62°.

Step 1:
Understand the problem.

Step 2:
Devise a plan by representing the unknown quantities.

Form equations from the representations.

Step 3:
Carry out the plan by solving the system of linear equation.

(Using substitution method)

28° is measure of the smaller angle

62° is measure of the larger angle

	$\begin{array}{rcl} x + y & = & 90 \\ (28) + (62) & = & 90 \\ 90 & = & 90 \end{array}$ $\begin{array}{rcl} y & = & 6 + 2x \\ 62 & = & 6 + 2(28) \\ 62 & = & 6 + 56 \\ 62 & = & 62 \end{array}$ Since the solution satisfies the equations of the system, then the angles are 28° and 62°. Example 2: A square and an equilateral triangle have equal perimeter. The sum of one side of the square and one side of the triangle is 28 inches. What is the length of one side of the square and one side of the equilateral triangle? Solution: Let x = the length of a square's side y = the length of an equilateral triangle's side For the sum of one side of the square and one side of the triangle: $x + y = 28$ For the perimeter of a square and perimeter of equilateral triangle: $4x = 3y$ $x + y = 28$ $4x - 3y = 0 \text{ (standard form of } 4x - 3y)$ $4(x + y = 28) \rightarrow 4x + 4y = 112$ $\begin{array}{r} 4x + 4y = 112 \\ (-) 4x - 3y = 0 \\ \hline 7y = 112 \\ 7y = \frac{112}{7} \\ \hline y = 16 \end{array}$ $\begin{array}{rcl} x + y & = & 28 \\ x + (16) & = & 28 \\ x & = & 28 - 16 \\ \mathbf{x} & = & \mathbf{12} \end{array}$	Step 4: Look back and reflect. Check if the solution satisfies the given equations of the system. Step 1: Understand the problem. Step 2: Devise a plan by representing the unknown quantities. Form equations from the representations. Step 3: Carry out the plan by solving the system of linear equation. (Using elimination method) 16 inches is the length of a square's side. 12 inches is the length of an equilateral triangle's side.	Inform students that complementary angles are two angles whose sum is 90°.
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The length of a side of square is 16 inches while the length of a side of an equilateral triangle is 12 inches.

$$\begin{array}{rcl} x + y & = & 28 \\ (16) + (12) & = & 28 \\ 28 & = & 28 \end{array} \qquad \begin{array}{rcl} 4x & = & 3y \\ 4(12) & = & 3(16) \\ 48 & = & 48 \end{array}$$

Step 4:
Look back and reflect. Check if the solution satisfies the given equations of the system.

Since the solution satisfies the equations of the system, then **the length of a side of square is 16 inches while the length of a side of an equilateral triangle is 12 inches.**

3. Lesson Activity

Refer to the Worksheet Activity No. 2

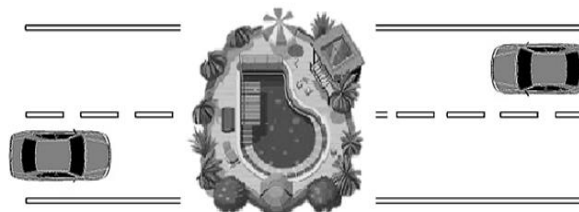
DAY 2

SUB-TOPIC 2: Uniform Motion Problems

1. Explication

Road to a Family Reunion

Paul and Glen are first cousins. Their clan decided for a reunion in a private resort. Paul's car and Glen's car are 261 kilometers apart. Both cars meet in three hours. Paul's car is 3 kilometers faster than Glen's.



Questions:

1. What do you think is the average speed of Paul's car and Glen's car?
2. Can this problem be solved using systems of linear equations?
3. What strategy will you do to easily solve this kind of problem?

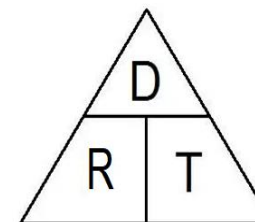
2. Worked Example

The problem in the "Explication" is an example of a uniform motion problem. This problem uses the distance formula:

$$\text{Distance} = \text{Rate or Speed} \cdot \text{Time}$$

You can also use this triangle since not all problems are looking for distance. If rate or speed is unknown, then:

$$\text{Rate} = \frac{\text{Distance}}{\text{Time}}$$



Activity 2 Answers:

A.

1. smaller number = 13
larger number = 29
2. the numbers are 13 and 43
3. the numbers are 8 and 9
4. 18
5. 63

B.

1. length = 25 meters
width = 15 meters
2. Mang Berto's farm=54 acres
Mang Litos' farm=90 acres
3. 9 cm and 18 cm.
4. 36° and 144°
5. 64°

Answers:

1. 42kph and 45 kph
2. Yes.
3.
 - a) Use the distance formula:
Distance = Rate $\cdot$ Time
 - b) Creating a table is a big help in solving this kind of problem.

If time is to be solved, then:

$$\text{Time} = \frac{\text{Distance}}{\text{Rate}}$$

Example 1: Paul and Glen are first cousins. Their clan decided for a reunion in a private resort. Paul's car and Glen's car are 261 kilometers apart. Both cars meet in three hours. Paul's car is 3 kilometers faster than Glen's. Find the speed of each car.

Solution: Let x = Paul's car $\text{Rate} = \frac{\text{Distance}}{\text{Time}}$
 y = Glen's car

	Rate	Time	Distance
Paul's car	x	3	$3x$
Glen's car	y	3	$3y$

Paul's car and Glen's car are 261 kilometers apart is: $3x + 3y = 261$

Form equations from the representations.

Paul's car is 3 kilometers faster than Glen's is: $x = y + 3$

$$3x + 3y = 261$$

$$x - y = 3 \text{ (standard form of } x = y + 3 \text{)}$$

Step 3:

Carry out the plan by solving the system of linear equation.

$$3(x - y = 3) \rightarrow \begin{array}{r} 3x + 3y = 261 \\ \underline{3x - 3y = 9} \\ 6x = 270 \end{array}$$

$$\frac{6x}{6} = \frac{270}{6}$$

$$x = 45$$

(Using elimination method)

45 kph is the speed of Paul's car

$$x - y = 3$$

$$45 - y = 3$$

$$45 - 3 = y$$

$$y = 42$$

42 kph is the speed of Glen's car

Paul's car speed is 45 kph while Glen's car is 42 kph.

$$3x + 3y = 261$$

$$x - y = 3$$

$$3(45) + 3(42) = 261$$

$$45 - 42 = 3$$

$$135 + 126 = 261$$

$$3 = 3$$

$$261 = 261$$

Step 4:

Look back and reflect. Check if the solution satisfies the given equations of the system.

Since the solution satisfies the equations of the system, then **the speed of Paul's car is 45 kph while Glen's car speed is 42 kph.**

Example 2: A river cruise ship sailed 80 miles downstream for four hours and then took 5 hours sailing upstream to return to the dock. Find the rate of the ship in still water and the rate of the current of the river.

Solution: Let: x = rate of the ship
 y = rate of the current of the river

	Rate	Time	Distance
downstream	$x + y$	4	$4(x + y)$ or $4x + 4y$
upstream	$x - y$	5	$5(x - y)$ or $5x - 5y$

$$4x + 4y = 80$$

$$5x - 5y = 80$$

$$5(4x + 4y = 80) \rightarrow 20x + 20y = 400$$

$$4(5x - 5y = 80) \rightarrow (+) 20x - 20y = 320$$

$$40x = 720$$

$$\frac{40x}{40} = \frac{720}{40}$$

$$x = 18$$

Form equations from the representations.

Step 3:

Carry out the plan by solving the system of linear equation.

(Using elimination method)

18 miles per hour is the rate of the ship

$$4x + 4y = 80$$

$$4(18) + 4y = 80$$

$$72 + 4y = 80$$

$$4y = 80 - 72$$

$$4y = 8$$

$$\frac{4y}{4} = \frac{8}{4}$$

$$y = 2$$

2 miles per hour is the rate of the current of the river.

Rate Upstream is $x + y$, so $18 + 2 = 20$

The rate of the ship upstream is 20 miles per hour.

Rate Downstream is $x - y$, so $18 - 2 = 16$

The rate of the ship downstream is 16 miles per hour.

$$4x + 4y = 80$$

$$4(18) + 4(2) = 80$$

$$72 + 8 = 80$$

$$80 = 80$$

$$5x - 5y = 80$$

$$5(18) - 5(2) = 80$$

$$90 - 10 = 80$$

$$80 = 80$$

Step 4:

Look back and reflect. Check if the solution satisfies the given equations of the system.

Since the solution satisfies the equations of the system, then **the rate of the ship is 18 miles per hour and the rate of the current is 2 miles per hour.**

3. Lesson Activity

Refer to the Worksheet Activity No. 3

DAY 3

SUB-TOPIC 3: Mixture Problems and Investment Problems

1. Explicitation

Soy bean meal and corn meal are food rich in protein. What happens when you combine these into a meal? Can systems of linear equations be applied in solving this kind of word problem?

There are cases when you combine two or more things and determine some characteristic of either the ingredients or the resulting mixture. Mixture and investment problems can also be solved using systems of linear equations.

However, there are cases where you need to convert equations into equivalent equations. It is making sure that the numerical coefficients are whole numbers, to easily solve the systems of linear equations.

2. Worked Example

MIXTURE PROBLEMS

Example 1: Soy bean meal is 18% protein while cornmeal is 8% protein. How many kilograms of each should be mixed together to get a 200-kilogram mixture that is 12% protein?

Solution: Let x = number of kilograms of soybean
 y = number of kilograms of cornmeal

	Soybean	Cornmeal	Mixture
Amount of Solution	x	y	200
Percent of Protein	18% or 0.18	8% or 0.08	12% or 0.12
Amount of Protein in Mixture	$0.18x$	$0.08y$	24

$x + y = 200$
 $0.18x + 0.08y = 24$
 Transform $0.18x + 0.08y = 24$ into
 equivalent equation whose coefficients
 are whole numbers:
 $100(0.18x + 0.08y = 24)$

Form equations from the
 representations.
 Step 3:
 Carry out the plan by solving the
 system of linear equation.

Activity 3 Answers:

- 3 hours
- 45kph and 30 kph
- rate of the barge = 6kph
rate of the current = 2kph
- $2\frac{1}{2}$ hours
- Axel's speed = 6kph
Gelo's speed = 4kph

	$18x + 8y = 2400$ $x + y = 200 \text{ or } x = 200 - y$ $18x + 8y = 2400$ $18(200 - y) + 8y = 2400$ $3600 - 18y + 8y = 2400$ $3600 - 10y = 2400$ $-10y = 2400 - 3600$ $-10y = -1200$ $\frac{-10y}{-10} = \frac{-1200}{-10}$ $y = 120$ 120 kilograms of cornmeal $x + y = 200$ $x + 120 = 200$ $x = 200 - 120$ $x = 80$ 80 kilograms of soybean meal There are 80 kilograms of soybean meal and 120 kilograms of cornmeal for 200-kilogram mixture that is 12% protein. $x + y = 200 \quad 0.18x + 0.08y = 24$ $80 + 120 = 200 \quad 0.18(80) + 0.08(120) = 24$ $200 = 200 \quad 14.4 + 9.6 = 24$ $24 = 24$ Step 4: Look back and reflect. Check if the solution satisfies the given equations of the system. Since the solution satisfies the equations of the system, then there are 80 kilograms of soybean meal and 120 kilograms of cornmeal for 200-kilogram mixture that is 12% protein. Example 2: Wendy bought 9 notebooks and 4 ballpens which costs Php225. Peter bought 8 notebooks and 6 ballpens which costs Php 222. What is the price of a notebook and a ballpen? Solution: Let: x = price of a notebook y = price of a ballpen $9x + 4y = 225$ $8x + 6y = 222$ $3(9x + 4y = 225) \rightarrow 27x + 12y = 675$ $2(8x + 6y = 222) \rightarrow 16x + 12y = 444$ $27x + 12y = 675$ Form equations from the representations. Step 3: Carry out the plan by solving the system of linear equation.	
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$$\begin{array}{r} (-)16x + 12y = 444 \\ 11x \quad \quad = 231 \\ \hline \frac{11x}{11} = \frac{231}{11} \\ \mathbf{x = 21} \end{array}$$

(Using substitution method)

Php 21 is the price of a notebook.
Php 9 is the price of a pen

$$\begin{array}{r} 9x + 4y = 225 \\ 9(21) + 4y = 225 \\ 189 + 4y = 225 \\ 4y = 225 - 189 \\ 4y = 36 \\ \frac{4y}{4} = \frac{36}{4} \\ \mathbf{y = 9} \end{array}$$

The price of a notebook is Php 24 and the price of a pen is Php 9.

$9x + 4y = 225$ $8x + 6y = 222$ Step 4:
 $9(21) + 4(9) = 225$ $8(21) + 6(9) = 222$ Look back and reflect. Check if the
 $189 + 36 = 225$ $168 + 54 = 222$ solution satisfies the given
 $225 = 225$ $222 = 222$ equations of the system.
 Since the solution satisfies the equations of the system, then **the price of a notebook is Php 24 and the price of a pen is Php 9.**

INVESTMENT PROBLEMS

Example 1: Mel invested Php 30000 from his savings. Part of the amount is invested at 6% annual interest rate and the remaining amount has an annual interest of 9%. At the end of the year, he earned Php 2340. How much did he invest at each rate?

Solution: Let: x = amount invested at 5% annual interest
 y = amount invested at 7% annual interest

Amount Invested	Rate	Income
x	6% or 0.06	$0.06x$
y	9% or 0.09	$0.09y$

$x + y = 30000$
 $0.06x + 0.09y = 2340$
 Transform $0.06x + 0.09y = 2340$ into
 equivalent equation whose
 coefficients are whole numbers:

Form equations from the
 representations.
 Step 3:
 Carry out the plan by solving the
 system of linear equation.

$$100(0.06x + 0.09y = 2340)$$

$$6x + 9y = 23400$$

$$6(x + y = 30000) \rightarrow 6x + 6y = 180000 \quad (\text{Using elimination method})$$

$$\begin{array}{r} (-) 6x + 9y = 234000 \\ \hline -3y = -54000 \\ -3y = -54000 \\ \hline -3 = -3 \\ \hline \mathbf{y = 18000} \end{array}$$

Php 18000 is the amount invested at 9% annual interest

$$x + y = 30000$$

$$x + 18000 = 30000$$

$$x = 30000 - 18000$$

$$\mathbf{x = 12000}$$

Php 12000 is the amount invested at 6% annual interest

The amount invested at 6% annual interest is Php 12000 while the amount invested at 9% annual interest is Php 18000.

$$x + y = 30000$$

$$12000 + 18000 = 30000$$

$$30000 = 30000$$

$$0.06x + 0.09y = 2340$$

$$0.06(12000) + 0.09(18000) = 2340$$

$$720 + 1620 = 2340$$

Step 4:

Look back and reflect. Check if the solution satisfies the given equations of the system.

Since the solution satisfies the equations of the system, then **the amount invested at 6% annual interest is Php 12000 while the amount invested at 9% annual interest is Php 18000.**

Example 2: Olive invested a sum of money at 6% per year, and 3 times as much at 8% per year. How much did he invest at each rate if his annual return totaled Php 2400?

Solution: Let: x = the amount invested at 6% per year

y = the amount invested at 8% per year

Amount Invested	Rate	Income
x	6% or 0.06	$0.06x$
y	8% or 0.08	$0.08y$

$$0.06x + 0.08y = 2400$$

$$y = 3x \text{ or } 3x - y = 0$$

Form equations from the representations.

Transform $0.06x + 0.08y = 2400$
into equivalent equation whose
coefficients are whole numbers:
 $100(0.06x + 0.08y = 2400)$
 $6x + 8y = 240000$

$$\begin{array}{r} 6x + 8y = 240000 \\ 8(3x - y = 0) \rightarrow (+) \underline{24x - 8y = 0} \\ \hline 30x = 240000 \\ \frac{30x}{30} = \frac{240000}{30} \\ \hline x = 8000 \end{array}$$

$$y = 3(8000)$$

$$y = 24000$$

The amount invested at 6% per year interest is Php 8000 while, the amount invested at 8% per year interest is Php 24000.

$$\begin{array}{l} 0.06x + 0.08y = 2400 \\ 0.06(8000) + 0.08(24000) = 2400 \\ 480 + 1920 = 2400 \\ 2400 = 2400 \end{array}$$

Since the solution satisfies the equations of the system, then **the amount invested at 6% per year interest is Php 8000 while, the amount invested at 8% per year interest is Php 24000.**

3. Lesson Activity

Refer to the Worksheet Activity No. 4

Step 3:
Carry out the plan by solving the system of linear equation.

(Using elimination method)

Php 8000 is the amount invested at 6% per year

Php 24000 is the amount invested at 8% per year

$$\begin{array}{l} y = 3x \\ 24000 = 3(8000) \\ 24000 = 24000 \end{array}$$

Step 4:
Look back and reflect. Check if the solution satisfies the given equations of the system.

Activity 4 Answers:

A.

1. 25 liters of 26% butterfat and 25 liters of 22% butterfat
2. 120 gallons of 85% maple syrup and 60 gallons of pure maple syrup
3. 10 kilos of chocolate and 5 kilos of other candy
4. 20 ml of 13% acid solution and 30 ml of 18% acid solution
5. 38 Php 5 coins and 26 Php 10 coins

B.

1. Php 19000 for 5% investment rate and Php 21000 for 6% investment rate.
2. Php 10000 for 12% annual interest and Php 5000 for 9% annual interest.
3. Php 12000 for 8% annual interest and Php 16000 for 9% annual interest.
4. Php 40000 for 12% annual interest and Php 20000 for 6% annual interest
5. Php 20000 at 6% interest rate and Php 30000 at 8% interest rate.

D. Making Generalizations	DAY 4 1. Learners' Takeaways and Reflection on Learning Answer the following questions: 1. What are the steps in solving word problems involving systems of linear equations in two variables? 2. Which kind of problem do you find the easiest? Why? 3. Which kind of problem do you the most challenging? Why? 4. How will you easily create a system of linear equations to solve each kind of problem?	
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IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		NOTES TO TEACHERS
A. Evaluating Learning	1. Formative Assessment A. Choose the letter of the correct answer. For Numbers 1-4. Given: If the larger of two numbers is subtracted from 6 times the smaller, the result is 20. If twice the larger number is added to 4 times the smaller, the result is 56. 1. If x represents the smaller number and y is the larger number, what is the mathematical expression for "If the larger of two numbers is subtracted from 6 times the smaller, the result is 20"? A. $x - y = 6$ C. $x - y = 20$ B. $y - 6x = 20$ D. $6x - y = 20$ 2. If x represents the smaller number and y is the larger number, what is the mathematical expression for "If twice the larger number is added to 4 times the smaller, the result is 56"? A. $2x + 4y = 56$ C. $x + 4y = 56$ B. $2y + 4x = 56$ D. $2x + y = 56$ 3. What is the value of the smaller number? A. 4 B. 6 C. 8 D. 10 4. What is the value of the larger number? A. 16 B. 18 C. 22 D. 24	Answers: A. 1. D 2. B 3. B 4. A 5. B 6. C 7. D 8. A 9. D 10. B

For Numbers 5-8. A carpet manufacturer blends two fibers, one 20% wool and the second 50% wool. How many pounds of each fiber should be woven together to produce 600-pound of a fabric that is 28% wool?

5. If x represents the number of pounds of 20% wool and y represents the number of pounds of 50% wool, which equation represents the 28% wool mixture?

A. $0.2x + 0.5y = 600$ C. $0.2x + 0.5y = 28$
 B. $0.2x + 0.5y = 168$ D. $0.2x + 0.5y = 188$

6. What equation will represent the mixture of 600-pound wool?

A. $x + y = 28$ C. $x + y = 600$
 B. $x - y = 28$ D. $x + y = 28$

7. Which of the following is the equivalent equation of $0.2x + 0.5y = 168$?

A. $2x + 5y = 0.168$ C. $2x + 5y = 168$
 B. $2x + 5y = 1.68$ D. $2x + 5y = 1680$

8. If you want to eliminate x in the system of linear equations $x + y = 600$ and $2x + 5y = 1680$, what number will you multiply to $x + y = 600$?

A. 2 B. 3 C. 5 D. 6

9. How many pounds of fabric have 20% wool?

A. 140 B. 160 C. 400 D. 440

10. How many pounds of fabric have 50% wool?

A. 140 B. 160 C. 400 D. 440

B. Solve the following problems.

1. Find the value of two numbers whose sum is 15 and their difference is 3.
2. Two angles are supplementary. One angle is 20° less than four times the other. Find the angles.
3. A boat traveled 336 miles downstream and back. The trip downstream took 12 hours. The trip back took 14 hours. What is the speed of the boat in still water? What is the speed of the current?

B.

1. 6 and 9
2. 140° and 40°
3. boat's speed = 26mph,
current's speed = 2 mph
4. Php 10000 at 6% dividend and
Php 10000 at 5% dividend
5. 20 ounces at 30% solution
and 40 ounces at 60% solution.

	4. A woman had two investments, one paying a 6% dividend. The other is Php 5000 more than half the first investment and pays a 5% dividend. If the total return is Php 1100, find the investments. 5. A chemist has one solution that is 30% salt and another solution that is 60% salt. How many ounces of each must he used to produce 60 ounces of a solution that is 50% pure salt? 2. Homework (Optional)			
B. Teacher's Remarks	<i>Note observations on any of the following areas:</i>	Effective Practices	Problems Encountered	The teacher may take note of some observations related to the effective practices and problems encountered after utilizing the different strategies, materials used, learner engagement, and other related stuff. Teachers may also suggest ways to improve the different activities explored/lesson exemplar.
	strategies explored			
	materials used			
	learner engagement/ interaction			
	others			
C. Teacher's Reflection	<i>Reflection guide or prompt can be on:</i> <u>principles behind the teaching</u> <i>What principles and beliefs informed my lesson? Why did I teach the lesson the way I did?</i> <u>students</u> <i>What roles did my students play in my lesson? What did my students learn? How did they learn?</i> <u>ways forward</u> <i>What could I have done differently? What can I explore in the next lesson?</i>			Teacher's reflection in every lesson conducted/facilitated is essential and necessary to improve practice. You may also consider this as an input for the LAC/Collab sessions.