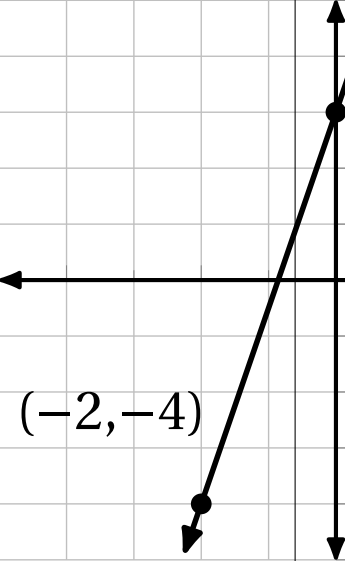


 GRADES 1 to 12 DAILY LESSON LOG	School	Sauyo High School	Grade Level	Grade 8
	Teacher	Mr. Jonathan R. Bacolod, LPT	Learning Area	Mathematics
	Teaching Dates and Time	Week 10, August 5 – 9, 2019	Quarter	1st

I. OBJECTIVES	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Learning Competencies/ Objectives:	1. Reiterate the steps in simplifying complex rational expressions; 2. Simplify complex rational expressions; and, 3. Project willingness and self-reliance in solving problems.	1. Describe rational equations; 2. Generate solutions to rational equations; and, 3. Exhibit willingness and interest in solving problems.	1. List rational equations; 2. Calculate solutions to rational equations; and, 3. Show independence and willingness in solving problems.	1. Employ rational equations; 2. Generate solutions to rational equations; and, 3. Show perseverance and enjoyment in solving problems.	1. Recall rational equations; 2. Solve solutions to rational equations; and, 3. Exhibit willingness and determination in solving problems.
II. CONTENT	RATIONAL ALGEBRAIC EXPRESSIONS AND ALGEBRAIC EXPRESSIONS WITH INTEGRAL EXPONENTS				
	Complex Rational Expressions	Solution of Rational Equation	Rectangular Coordinate System	Linear Equations	Slope of a Line
III. LEARNING RESOURCES					
A. References					
1. Teacher's Guide Pages	pp. 211–223	pp. 211–223	pp. 224–232	pp. 233–245	pp. 246–270
2. Learner's Materials Pages	pp. 228–242	pp. 228–242	pp. 243–253	pp. 254–267	pp. 268–300
3. Textbook Pages	pp. 250–265	pp. 250–265	pp. 266–277	pp. 278–291	pp. 292–310
4. Additional Materials from Learning Resources Portal					
B. Other Learning Resources	Flashcards	Flashcards	Flashcards	Flashcards	Flashcards
IV. PROCEDURES					

A. Reviewing Previous Lesson or Presenting New Lesson	Complex Rational Expressions	Solution of Rational Equation	Rectangular Coordinate System	Linear Equations	Slope of a Line
	<p>Complex Rational Expression: if the numerator or denominator, or both numerator and denominator of a rational algebraic expression is also a rational algebraic expression</p> <p>A rational algebraic expression is said to be in its simplest form when the numerator and denominator are polynomials with no common factors other than 1.</p> <p>How to Simplify Complex Rational Expressions:</p> <ol style="list-style-type: none"> 1. Find the LCD of all the denominators. 2. Multiply all the terms of the complex rational expression by the LCD. 3. Simplify the expression. 	<p>Rational Equation: an equation that contains one or more rational expressions. It is an equality of two ratios.</p> <p>Rational equations are easier to solve if you first clear all denominators other than 1.</p> <p>In solving rational equations:</p> <ol style="list-style-type: none"> 1. Determine which values of the variable are not permissible in the expression. 2. Determine the LCD of all rational expressions. 3. Multiply both sides of the equation by the LCD. 4. Simplify the equation by removing the parenthesis and combining similar terms. 5. Solve the equation resulting from step 4. 6. Check for extraneous solution. <p>Extraneous solution: the value obtained in solving an equation which does not satisfy the equation</p>	<p>Rectangular Coordinate System or Cartesian Plane: constructed by drawing two perpendicular lines wherein the point of intersection is called the <i>origin</i></p> <p>Coordinate axes: the two perpendicular lines</p> <p>X-Axis: the horizontal line</p> <p>Y-Axis: the vertical line</p> <p>Quadrants: the four regions that divide the plane</p> <p>Coordinates: the ordered pair of real numbers that corresponds to each point in the plane</p> <p>X-Coordinate or Abscissa: the first number of the ordered pair</p> <p>Y-Coordinate or Ordinate: the second number of the ordered pair</p>	<p>Linear Equation: an equation in two variables which can be written in two forms:</p> <ul style="list-style-type: none"> • Standard Form: $Ax + By = C$, where A, B, and $C \in \mathbb{R}$ and A and B not both 0 • Slope-Intercept Form: $y = mx + b$, where m is the slope and b is the y-intercept, m and $b \in \mathbb{R}$ 	<p>Slope: the steepness of a line</p> <ul style="list-style-type: none"> • The slope m of a line can be computed by finding the quotient of the rise and the run. $m = \frac{\text{rise}}{\text{run}}$ • The slope m of the line passing through two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$ is given by $m = \frac{y_2 - y_1}{x_2 - x_1}, \text{ where } x_1 \neq x_2.$ • The slope of the horizontal line is zero while that of the vertical line is undefined. • The value of the slope m tells the trend of the graph. <ul style="list-style-type: none"> – If m is positive, then the graph is increasing from left to right. – If m is negative, then the graph is decreasing from left to right. – If m is zero, then the graph is a horizontal line.

B. Establishing a Purpose for the Lesson	The purpose of this lesson is to enable the students to solve real life problems involving complex rational expressions.	The purpose of this lesson is to enable the students to solve real life problems involving rational equations.	The purpose of this lesson is to enable the students to solve real life problems involving rational equations.	The purpose of this lesson is to enable the students to solve real life problems involving rational equations.	The purpose of this lesson is to enable the students to solve real life problems involving rational equations.
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<p>C. Discussing New Concepts and Practicing New Skills #1</p>	<p>Practice Exercises</p> <p>Simplify the following complex rational expressions.</p> <ol style="list-style-type: none"> $\frac{\frac{1}{x} - \frac{1}{y}}{\frac{1}{x^2} + \frac{1}{y^2}}$ $\frac{\frac{x-y}{x+y} - \frac{y}{x}}{\frac{x}{y} + \frac{x-y}{x+y}}$ $\frac{1 + \frac{2}{x}}{1 + \frac{2}{x^2}}$ $\frac{\frac{a}{a-b} + \frac{a}{a+b}}{\frac{b}{a-b} + \frac{a}{a+b}}$ $\frac{4 - \frac{4}{y^2}}{2 + \frac{2}{y}}$ 	<p>Practice Exercises</p> <p>A. Determine whether the given value on the left is a solution to the rational equation or not. Write <i>Yes</i> or <i>No</i>.</p> <ol style="list-style-type: none"> 4; $\frac{2}{x} = \frac{6}{12}$ -1; $\frac{-3}{2x} = \frac{9}{6}$ $\frac{1}{9}$; $3x^2 = \frac{1}{27}$ -1; $\frac{2}{x} - \frac{x}{3} = 5$ 6; $\frac{1}{2} + \frac{1}{3} = \frac{1}{x}$ 	<p>Practice Exercises</p> <p>A. Name the point that has the coordinates.</p> <ol style="list-style-type: none"> (0, 4) (-2, -1) (0, -6) (-5, -4) (1, 6) 	<p>Practice Exercises</p> <p>A. Rewrite the following equations in the form $Ax + By = C$.</p> <ol style="list-style-type: none"> $y = -x + 4$ $y = 5x + 7$ $y = \frac{1}{2}x$ $y = \frac{2}{3}x - 3$ $y = \frac{5}{2}x + \frac{3}{2}$ 	<p>Practice Exercises</p> <p>Find the slope of each line below.</p> <ol style="list-style-type: none">   
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<p>D. Discussing New Concepts and Practicing New Skills #2</p>		<p>B. Solve each rational equation. If it has no solution, write “<i>No Solution</i>”.</p> <ol style="list-style-type: none"> $\frac{a}{3} = \frac{5}{12}$ $\frac{6y}{7} - \frac{y}{2} = 5$ $\frac{1}{x} - \frac{1}{x^2} = \frac{1}{4}$ $\frac{x}{10} + \frac{x}{6} - \frac{x}{15} = 1$ $\frac{2}{5} + \frac{2}{y} = 1$ 	<p>B. Write the coordinates of each point.</p> <ol style="list-style-type: none"> E B G D H <p>C. Determine the quadrant or axis where each point is located.</p> <ol style="list-style-type: none"> A B C D E 	<p>B. Rewrite the following equations in the form $y = mx + b$ and identify the values of m and b.</p> <ol style="list-style-type: none"> $2x + y = 9$ $3x - y = 2$ $3x + \frac{1}{2}y = 4$ $-3x + 3y - 1 = 0$ $\frac{5}{2}x + \frac{2}{3}y - 5 = 0$ 	<p>B. Determine the slope and trend of each line.</p> <ol style="list-style-type: none"> $f(x) = 2x - 5$ $f(x) = x + 6$ $f(x) = \frac{2}{3}x - \frac{1}{2}$ $7x - 3y - 10 = 0$ $x = 8$
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E. Developing Mastery

Problem Set

Simplify the following complex rational expressions.

1.
$$\frac{x + \frac{x}{y}}{1 + \frac{1}{y}}$$

2.
$$\frac{1 + \frac{3x}{x+3}}{x + \frac{3x}{x-3}}$$

3.
$$\frac{x + \frac{x}{y}}{y - \frac{y}{x}}$$

4.
$$\frac{\frac{1}{a-2} - \frac{3}{a-1}}{\frac{a-2}{a-2} + \frac{a-1}{a-1}}$$

5.
$$\frac{\frac{y+1}{y}}{\frac{y-1}{2y}}$$

Problem Set

A. Determine whether the given value on the left is a solution to the rational equation or not. Write *Yes* or *No*.

1. 1; $\frac{3x}{5} = \frac{15}{25}$

2. -7; $\frac{1}{x^2} = \frac{1}{49}$

3. $\frac{-6}{7}$; $\frac{2}{3} + \frac{1}{2} = \frac{1}{x}$

4. $\frac{-1}{2}$; $\frac{1}{y} + \frac{1}{y^2} = 2$

5. -2; $\frac{2}{x} + \frac{x}{4} = \frac{-3}{2}$

B. Solve each rational equation. If it has no solution, write “*No Solution*”.

1. $\frac{n}{6} - \frac{n}{4} = 9$

2. $\frac{5}{4} - \frac{3}{x} = \frac{1}{2}$

3. $\frac{a+1}{3} = \frac{4}{a}$

4. $\frac{6}{x} + \frac{9}{2x} = 3$

5. $3b - \frac{3}{4} = \frac{2b}{3}$

Problem Set

A. Name the point that has the coordinates.

1. (7, -8)

2. (-7, 3)

3. (0, 8)

4. (-6, -9)

5. (2, 9)

B. Write the coordinates of each point.

1. C

2. A

3. F

4. D

5. H

C. Determine the quadrant or axis where each point is located.

1. H

2. G

3. F

4. E

5. D

Problem Set

A. Rewrite the following equations in the form $Ax + By = C$.

1. $y = -2x + 6$

2. $y = 3x - 8$

3. $y = \frac{1}{2}x + 3$

4. $y = 2x + \frac{1}{4}$

5. $y = \frac{5}{4}x + \frac{3}{8}$

B. Rewrite the following equations in the form $y = mx + b$ and identify the values of m and b .

1. $x + 2y = 4$

2. $5x + 2y = 7$

3. $5x - 7y = 2$

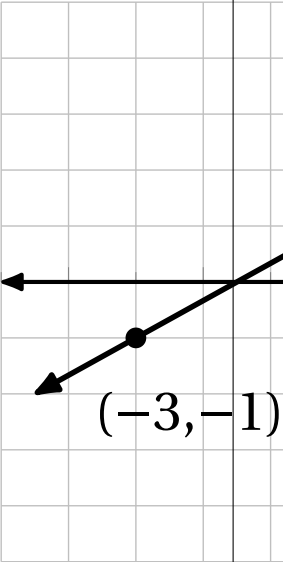
4. $\frac{2}{3}x - \frac{1}{3}y = 1$

5. $\frac{2}{3}x - \frac{1}{5}y = \frac{3}{5}$

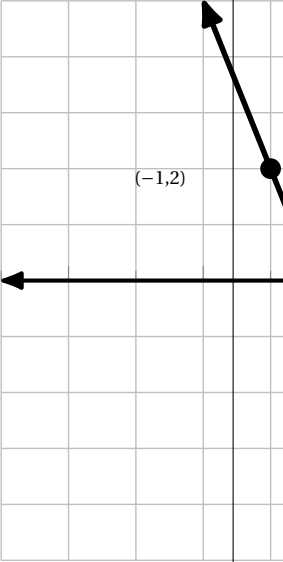
Problem Set

A. Find the slope of each line below.

1.



2.



3.



F. Finding Practical Application of Concepts and Skills in Daily Living	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of complex rational expressions? 2. How can you apply your knowledge of complex rational expressions in solving these real life problems?	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of rational equations? 2. How can you apply your knowledge of rational equations in solving these real life problems?	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of rational equations? 2. How can you apply your knowledge of rational equations in solving these real life problems?	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of rational equations? 2. How can you apply your knowledge of rational equations in solving these real life problems?	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of rational equations? 2. How can you apply your knowledge of rational equations in solving these real life problems?
G. Making Generalization and Abstractions about the Lesson	Let the students answer the following questions: 1. In your own words, what are complex rational expressions? 2. How do we solve problems involving algebraic expressions that require complex rational expressions?	Let the students answer the following questions: 1. In your own words, what are rational equations? 2. How do we solve rational equations?	Let the students answer the following questions: 1. In your own words, what are rational equations? 2. How do we solve rational equations?	Let the students answer the following questions: 1. In your own words, what are rational equations? 2. How do we solve rational equations?	Let the students answer the following questions: 1. In your own words, what are rational equations? 2. How do we solve rational equations?
H. Evaluating Learning					
I. Additional Activities for Application or Remediation					
VI. REMARKS	Objectives have been attained: ____ Objectives were not attained due to: _____	Objectives have been attained: ____ Objectives were not attained due to: _____	Objectives have been attained: ____ Objectives were not attained due to: _____	Objectives have been attained: ____ Objectives were not attained due to: _____	Objectives have been attained: ____ Objectives were not attained due to: _____
VII. REFLECTION					

A. No. of learners who earned 80% in the evaluation	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____
B. No. of learners who require additional activities for remediation who scored below 80%	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____	8-Bohr: ____ out of ____ 8-Copernicus: ____ out of ____ 8-Fleming: ____ out of ____
C. Did the remedial lessons work? No. of learners who have caught up with the lesson	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____
D. No. of learners who continue to require remediation	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____	8-Bohr: ____ 8-Copernicus: ____ 8-Fleming: ____
E. Which of my teaching strategies worked well? Why did these work?					
F. What difficulties did I encounter which my principal or supervisor can help me solve?					
G. What innovation or localized materials did I use/discover which I wish to share with other teachers?					

Checked by:

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