

8

Learning Activity Sheet for Mathematics

Quarter 1

Lesson

6

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Learning Activity Sheet for Mathematics Grade 8
Quarter 1: Lesson 6 (Week 6)
SY 2025-2026

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LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	Quarter:	1
Lesson No.:	6	Date:	
Lesson Title/ Topic:	Addition and Subtraction of Fractions		
Name:		Grade & Section:	

I. Activity No. 1: Short Review (15 mins.)

II. Objective(s): At the end of this activity, the learner should be able to:

- a. correctly illustrate the concept of simplifying fractions; and
- b. accurately add or subtract fractions.

III. Materials Needed: pen, worksheets

IV. Instructions: Answer the following.

1. Draw lines to match the fraction pairs to their LCM.

$\frac{3}{4}$	$\frac{7}{8}$	$\frac{6}{9}$	$\frac{2}{3}$	$\frac{5}{7}$	$\frac{1}{2}$	$\frac{8}{9}$	$\frac{4}{6}$	$\frac{7}{8}$	$\frac{11}{12}$	$\frac{1}{4}$	$\frac{3}{9}$
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14

8

24

9

18

36

2. Solve the following fractions. Write your answer in simplest form.

a) $\frac{1}{4} + \frac{5}{8} =$	b) $\frac{2}{3} + \frac{1}{9} =$	c) $\frac{3}{8} + \frac{2}{16} =$
d) $\frac{1}{2} - \frac{3}{10} =$	e) $\frac{4}{5} - \frac{7}{15} =$	f) $\frac{13}{16} - \frac{5}{32} =$

3. There is a sale on at Bitoy's LSleeves. The number on each long sleeve show what fraction of the original quantity of that color long sleeve is left in stock.

						
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- a. What fraction of the orange and blue long sleeves are left in stock?
- b. What fraction of the green and white long sleeves are left in stock?
- c. What fraction of the pink and black long sleeves have been sold?
- d. What fraction of the red and pink long sleeves have been sold?

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	Quarter:	1
Lesson No.:	6	Date:	
Lesson Title/ Topic:	Simplifying Rational Algebraic Expression		
Name:		Grade & Section:	

- I. Activity No. 2:** Lesson Activity (20 mins.)
- II. Objective(s):** At the end of this activity, the learner should be able to:
- a. correctly illustrate the rational algebraic expression
 - b. correctly simplify the rational algebraic expressions.
- III. Materials Needed:** pen, worksheets
- IV. Instructions:** Simplify the following in its simplest form.

1. $\frac{9m}{21n}$

Solution:

Step 1

Factor the numerator and denominator and get the GCF.

$$9m =$$

$$21n =$$

GCF:

GCF:

Thus, the common factor is __.

Step 2:

Divide out the common factor.



2. $\frac{9m}{21n}$

Solution:

Step 1

Get the GCF of each term.

$$6p^2 =$$

$$2p =$$

$$4p^3 =$$

GCF:

GCF:

Step 2:

Factor the common numerator and denominator.

$$\frac{6p^2}{2p-4p^3} =$$

Step 3:

Divide out the common factor.



3. $\frac{3x+3y}{x^2-y^2}$

Solution:

Step 1

Factor the common numerator and denominator.

$$\frac{3x+3y}{x^2-y^2} =$$

Step 2:

Divide out the common factor.



LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	Quarter:	1
Lesson No.:	6	Date:	
Lesson Title/ Topic:	Addition or Subtraction Similar Denominator Rational Algebraic Expressions		
Name:		Grade & Section:	

- I. Activity No. 3:** Lesson Activity (20 mins.)
- II. Objective(s):** At the end of this activity, the learner should be able to accurately add or subtract similar rational algebraic expressions.
- III. Materials Needed:** pen, worksheets
- IV. Instructions:** Perform the following operation and simplify if possible.

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

Solution:

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

Solution:

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	Quarter:	1
Lesson No.:	6	Date:	
Lesson Title/ Topic:	Addition or Subtraction Dissimilar Denominator of Rational Algebraic Expressions		
Name:		Grade & Section:	

- I. Activity No. 4:** Lesson Activity (20 mins.)
- II. Objective(s):** At the end of this activity, the learner should be able to:
- illustrate the secondary data; and
 - correctly analyze and interpret the graphical representation of the secondary data.
- III. Materials Needed:** pen, worksheets
- IV. Instructions:** Perform the following operation and simplify if possible.

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

Solution:

2. $\frac{2x-4}{x^2-4} - \frac{3x}{x+2}$

Solution:

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	Quarter:	1
Lesson No.:	6	Date:	
Lesson Title/ Topic:	Addition or Subtraction Similar/Dissimilar Denominator of Rational Algebraic Expressions		
Name:		Grade & Section:	

- I. **Activity No. 5:** Reflection Activity (15 mins.)
- II. **Objective(s):** At the end of this activity, the learner should be able to:
 - a. correctly simplify the rational algebraic expressions; and
 - b. accurately add and subtract similar and dissimilar rational algebraic expressions.
- III. **Materials Needed:** pen, worksheets
- IV. **Instructions:** Perform the following operation and simplify if possible.

ADDITION AND SUBTRACTION OF RATIONAL ALGEBRAIC EXPRESSIONS (SIMILAR AND DISSIMILAR)

Add

$$\frac{4}{x} + \frac{3}{y}$$

Subtract

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

Simplify first!

$$\frac{x^2 - 4}{x^2 + 6x + 8}$$

Add

$$\frac{4y+1}{7y} + \frac{3y-8}{7y}$$

Subtract

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

Feedback

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Say something about your experience here:

LEARNING ACTIVITY SHEET

Learning Area:	Mathematics	Quarter:	1
Lesson No.:	6	Date:	
Lesson Title/ Topic:	Simplifying Rational Algebraic Expressions Addition and Subtraction Similar Rational Algebraic Expressions Addition and Subtractions Dissimilar Rational Algebraic Expressions		
Name:		Grade & Section:	

I. Activity No. 1: Formative Assessment (30 Minutes)

II. Objective(s): At the end of this activity, the learner should be able to:

- a. correctly illustrate the rational algebraic expressions;
- b. accurately add and subtract similar rational algebraic expressions;
- c. accurate add and subtract dissimilar rational algebraic expressions.

III. Materials Needed: pen, worksheets

IV. Instructions: Answer the following.

A. On the space before each number, write TRUE if the statement is correct; otherwise, write FALSE.

1. The expression $\frac{8x^2y^2}{9z^5}$ is simplest form.
2. The expression $\frac{x^2-9}{x-3}$ is in simplest form.
3. The complete factorization of $\frac{x^2-16}{x-4}$ is $\frac{(x-4)(x+4)}{x-4}$.
4. The complete factorization of $\frac{x+3}{x^3+27}$ is $\frac{(x+3)}{(x+3)(x^2+3x+9)}$.
5. The expression $\frac{x^3-8}{x+2}$ is in simplest form.
6. The expression $\frac{6x+18}{9x-3}$ is in simplest form.
7. The complete factorization of $\frac{x^2-8x+15}{x-3}$ is $\frac{(x-3)(x-5)}{x-3}$.
8. The complete factorization of $\frac{x^2+x-6}{x+3}$ is $\frac{(x+3)(x-2)}{x+3}$.
9. The expression $\frac{m^3-16}{m^2-4}$ is in simplest form.
10. The expression $\frac{x^2-5x+6}{x^2-3x-10}$ is in simplest form.

B. Add the following and simplify if possible.

1

$$\frac{(x + 5)}{(x + 4)} + \frac{(3 + x)}{(x + 4)}$$

=



2

$$\frac{(5x + 4)}{(2x + 3)} + \frac{(x + 2)}{(2x + 3)}$$

=



3

$$\frac{(2x + 4)}{(8 + 3x)} + \frac{(x + 7)}{(8 + 3x)}$$

=



4

$$\frac{(2 + x)}{(6x + 5)} + \frac{(4x + 1)}{(6x + 5)}$$

=



Photo from Helping with Math

C. Perform the following operation as indicated.

1. $\frac{7x}{x-6} + \frac{42}{6-x}$	2. $\frac{14}{15-5x} - \frac{8}{2x-6}$
Solution:	Solution:
3. $\frac{x}{x+2} - \frac{3x}{4x-1}$	4. $\frac{4z}{z^2+z-20} + \frac{z}{z^2-8z+16}$
Solution:	Solution: