GENERAL MATHEMATICS 11

Name: _____ **Grade Level:** _____
Date: _____ **Score:** _____

Learning Activity Sheet
Distinguishing Rational Functions, Rational Equations and Rational Inequality

Background Information for Learners

Rational Function or expression, Rational Equations and Rational Inequalities are three sister terms in the fields of mathematics. These three terms are so connected to each other but differ by some elements

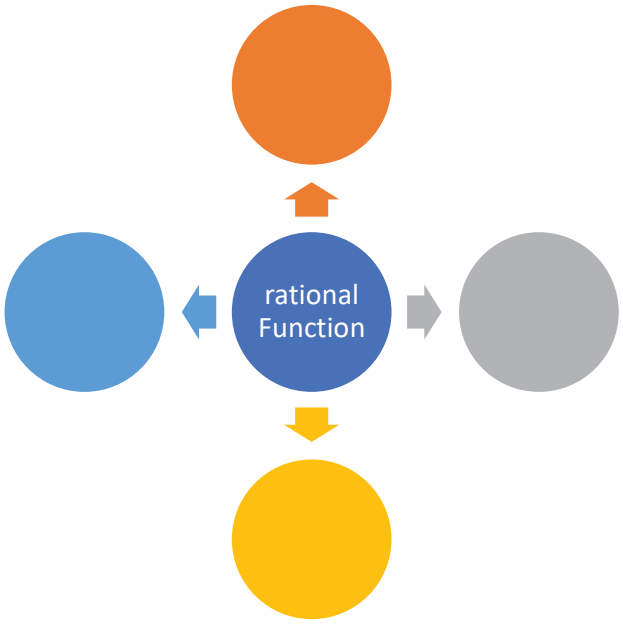
This learning activity sheet aims to distinguish these three terms and find the uniqueness of each term. Also, this also aims to familiarize the students into these mathematical ideas before proceeding to further topics which inclused solving of these.

Learning Competency

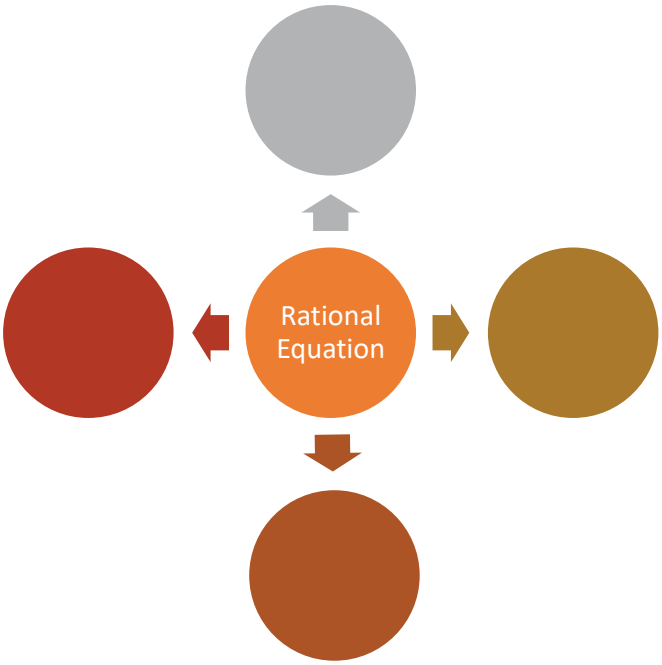
Distinguishes rational function, rational equation, and rational inequality. *(M11GM-Ib-2)*

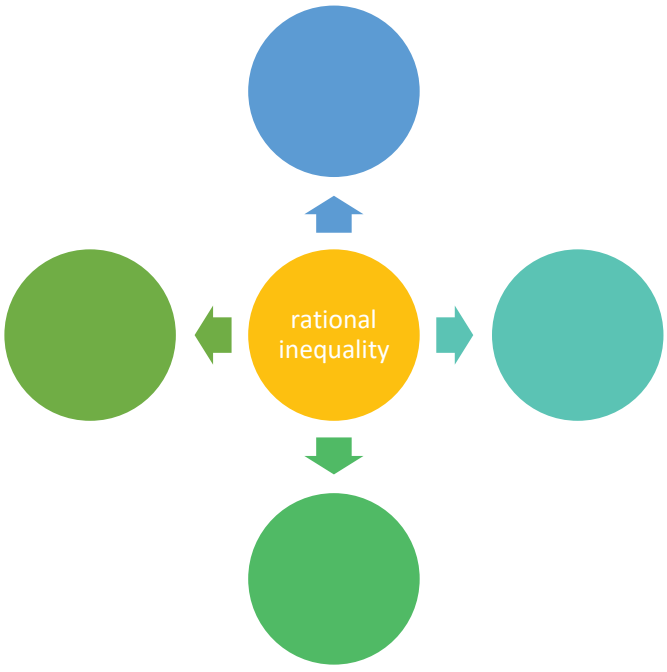
Activity 1: Describe me.

Directions: write words that you think best describes the following terms.



Note: Practice Personal Hygiene protocols at all times





Activity 2:Where do I Belong?

Directions: Identify on which group do the following expressions and functions belong. Identify whether they are rational function/expression, rational equation or rational inequality.

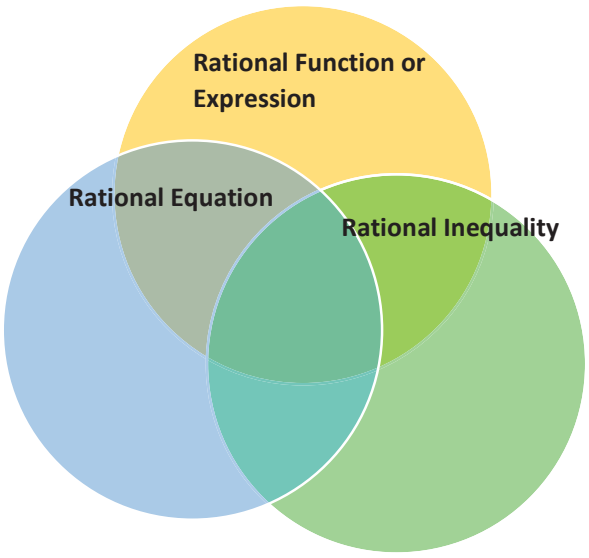
Note: Practice Personal Hygiene protocols at all times

$\frac{x+3}{x}$	$\frac{x}{3}+\frac{x+3}{2}=1$	$\frac{4x^2+2x+8}{2+3x}\geq 2$	$\frac{5x^2+2x+3}{x+3}$	$\frac{4x^2+6x+3}{3}=9$
$\frac{x+1}{3}>2$	$\frac{9x+16}{x}$	$\frac{2x+9}{3x}+\frac{x+1}{7x}\leq 0$	$\frac{x^2}{3}+\frac{3}{2x}=4$	$\frac{x+16}{3x}\leq 0$
$\frac{x+2}{x}=1$	$\frac{4x^2+2x+8}{2+3x}=2$	$\frac{x+9}{3}+\frac{2x+3}{7}$	$\frac{8x+1}{x}>0$	$\frac{4x^2+8x+2}{2x+3}$

Rational Function or Expression	Rational Equation	Rational Inequality
$\frac{x+3}{x}$	$\frac{x}{3}+\frac{x+3}{2}=1$	$\frac{x+1}{3}>2$
$\frac{9x+16}{x}$	$\frac{x+2}{x}=1$	$\frac{4x^2+2x+8}{2+3x}\geq 2$
$\frac{5x^2+2x+3}{x+3}$	$\frac{4x^2+2x+8}{2+3x}=2$	$\frac{2x+9}{3x}+\frac{x+1}{7x}\leq 0$
$\frac{4x^2+8x+2}{2x+3}$	$\frac{x^2}{3}+\frac{3}{2x}=4$	$\frac{8x+1}{x}>0$
$\frac{x+9}{3}+\frac{2x+3}{7}$	$\frac{4x^2+6x+3}{3}=9$	$\frac{x+16}{3x}\leq 0$

Activity 3: Compare and Contrast

Directions: Using all the knowledge gathered through all the activities, compare and contrast rational function or expression, rational equation and rational inequality using Venn-Euler Diagram



Note: Practice Personal Hygiene protocols at all times

Guide Questions

3. How are the three terms related?
4. How to distinguish each term?

Rubrics for scoring (activity 3)

Rubric	Description	Weight
Conciseness of the answer	The answers given are concise which are less words more thought.	20%
Organization	The answers are organize in a way that it is easy to understand.	30%
Relevance	The answers given are relevant and cited from a reliable source.	40%
Creativeness	The students put an effort to make a visual improvement on his Venn-Euler Diagram.	10%

Generalization

Direction: Write a brief summary on the characteristics of rational function or expression, rational equality and rational inequality.

_____
_____
_____
_____
_____
_____.

References for the Learners

3. (https://study.com/academy/lesson/rational-function-definition-equation-examples.html)

4. (https://www.wyzant.com/resources/answers/10941/what_distinguishes_a_rational_expression_from_a_rational_equation)

Answer Key

Activity 1:

"No Specific answer"

Activity 2:

Rational Function or Expression	Rational Equation	Rational Inequality
$\boldsymbol{\frac{x+3}{x}}$	$\frac{x}{3}+\frac{x+3}{2}=1$	$\frac{x+1}{3}>2$
$\boldsymbol{\frac{9x+16}{x}}$	$\frac{x+2}{x}=1$	$\frac{4x^2+2x+8}{2+3x}\geq 2$
$\boldsymbol{\frac{5x^2+2x+3}{x+3}}$	$\frac{4x^2+2x+8}{2+3x}=2$	$\frac{2x+9}{3x}+\frac{x+1}{7x}\leq 0$
$\boldsymbol{\frac{4x^2+8x+2}{2x+3}}$	$\frac{x^2}{3}+\frac{3}{2x}=4$	$\frac{8x+1}{x}>0$
$\boldsymbol{\frac{x+9}{3}+\frac{2x+3}{7}}$	$\frac{4x^2+6x+3}{3}=9$	$\frac{x+16}{3x}\leq 0$

Activity 3:

"No specific Answer"