WEEKLY HOME LEARNING PLAN
GRADE 9 - MATHEMATICS

October 12 - 16, 2020

<table>
<tr><th>Day & Time</th><th>Learning Area</th><th>Learning Competency</th><th>Learning Task</th><th>Mode of Delivery</th></tr>
<tr>
<td>October 12, 2020
Monday</td>
<td>Mathematics 9
(Patterns & Algebra)</td>
<td>• Illustrate quadratic equations
• Solves quadratic equations by:
a. extracting square roots
b. factoring
c. completing the square
d. using the quadratic formula</td>
<td>Please refer to Mathematics 9 PIVOT 4A Learner's Material with Lesson Title: Quadratic Equations (Week 1) p. 6 - 12

I. Activity: Copy and answer the activity in Learning Task 1 in p. 6. (Write your answer in a 1 whole sheet of paper.)

II. Lesson Proper: Study Illustrative Examples in p. 6-11. (You may copy the examples in your Math notebook as part of your references)
a. Illustrative examples in p. 6 - 7 explains how to determine whether a given equation illustrate quadratic equations.
Example 1 is not a quadratic equation
Example 2, 3 & 4 are quadratic equations (highest degree illustrated by the exponent of 2)
b. Illustrative examples in p. 7 – 11 shows the process on how quadratic equations into different ways.
A. Solving quadratic equations by extracting square roots
B. Solving quadratic equations by factoring
C. Solving quadratic equations by completing the square
D. Solving quadratic equations by using the quadratic formula</td>
<td>Online submission of output through Google Classroom and FB Classroom or Messenger.

Compilation of outputs will also be done through Portfolio making.</td>
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<tr>
<td>October 13, 2020
Tuesday</td>
<td>Mathematics 9
(Patterns & Algebra)</td>
<td>• Illustrate quadratic equations
• Solves quadratic equations by:
a. extracting square roots
b. factoring
c. completing the square
d. using the quadratic formula</td>
<td>III. Application: Copy and answer the following learning tasks, write your answer in a 1 whole sheet of paper including your solutions)
a. Learning Task 2 (A & B) in p. 11
b. Learning Task 3 (A, B, C & D) in p. 12

(for additional examples and illustration, you may watch the prepared instructional video posted in our FB Classroom)

IV. Reflection: Copy and answer the concept map in Learning Task 3 in p. 12.
(Write your answer in a 1 whole sheet of paper)

Note: All outputs written in the 1 whole sheet of paper must be captured and turned-in the designated Classwork in our Google Classroom on or before October 15, 2020 at 5pm. All outputs must also be compiled in your portfolio to be submitted at the end of the quarter.</td>
<td>Online submission of output through Google Classroom and FB Classroom or Messenger.

Compilation of outputs will also be done through Portfolio making.</td>
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<tr>
<td>October 14, 2020
Wednesday</td>
<td>Mathematics 9
(Patterns & Algebra)</td>
<td>• Characterize the roots of a quadratic equation using the discriminant and describe the relationship between the coefficients and the roots of a quadratic equation</td>
<td>Please refer to Mathematics 9 PIVOT 4A Learner's Material with Lesson Title: Characterizing and Describing the Roots of a Quadratic Equation (Week 2 - 3) p. 13 - 17

I. Activity: Copy and answer the activity in Learning Task 1 in p. 13. (Write your answer in a 1 whole sheet of paper)
Example: Complete the table
<table>
<tr><th rowspan="2">Equation</th><th rowspan="2">a</th><th rowspan="2">b</th><th rowspan="2">c</th><th rowspan="2">$b^2 - 4ac$</th><th colspan="2">Roots</th></tr>
<tr><th>x_1</th><th>x_2</th></tr>
<tr><td>$x^2 + 3x + 2 = 0$</td><td>1</td><td>3</td><td>2</td><td>1</td><td>- 2</td><td>- 1</td></tr>
</table>
II. Lesson Proper: Study Illustrative Examples in p. 13-16.
(You may copy the examples in your Math notebook as part of your references)
a. Illustrative examples 1 – 3 in p. 13 - 16 discusses the process on how to characterize the roots of an equation using the discriminant formula: $d = b^2 - 4ac$</td>
<td>Online submission of output through Google Classroom and FB Classroom or Messenger.

Compilation of outputs will also be done through Portfolio making.</td>
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<td>October 15, 2020
Thursday</td>
<td>Mathematics 9
(Patterns & Algebra)</td>
<td>• Characterize the roots of a quadratic equation using the discriminant and describe the relationship between the coefficients and the roots of a quadratic equation</td>
<td>III. Application: Copy and answer the following learning tasks, write your answer in a 1 whole sheet of paper including your solutions)
a. Learning Task 2 in p. 16
Example: Complete the table
<table>
<tr><th>Equation</th><th>a</th><th>b</th><th>c</th><th>Discriminant</th><th>Nature of the Roots</th></tr>
<tr><td>$x^2 + 4x + 3 = 0$</td><td>1</td><td>4</td><td>3</td><td>4</td><td>2 real and unequal roots</td></tr>
</table>
b. Learning Task 3-A in p. 17
c. Learning Task 3-B in p. 17
Example: Complete the table
<table>
<tr><th rowspan="2">Equation</th><th rowspan="2">a</th><th rowspan="2">b</th><th rowspan="2">c</th><th rowspan="2">$b^2 - 4ac$</th><th colspan="2">Roots</th><th rowspan="2">$x_1 + x_2$</th><th rowspan="2">$x_1 \cdot x_2$</th></tr>
<tr><th>x_1</th><th>x_2</th></tr>
<tr><td>$x^2 + 3x + 2 = 0$</td><td>1</td><td>3</td><td>2</td><td>1</td><td>- 2</td><td>- 1</td><td>-3</td><td>2</td></tr>
</table>
c. Learning Task 4 in p. 17

(for additional examples and illustration, you may watch the prepared instructional video posted in our FB Classroom)

IV. Reflection: Write your understanding in characterizing the roots of a quadratic equation using the discriminant and describe the relationship between the coefficients and the roots of a quadratic equation. (Write your answer in a 1 whole sheet of paper.)

Note: All outputs written in the 1 whole sheet of paper must be captured and turned-in the designated Classwork in our Google Classroom on or before October 15, 2020 at 5pm. All outputs must also be compiled in your portfolio to be submitted at the end of the quarter.</td>
<td>Online submission of output through Google Classroom and FB Classroom or Messenger.

Compilation of outputs will also be done through Portfolio making.</td>
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<td>October 16, 2020
Friday</td>
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<td>Checking of outputs from October 12 – 15, 2020 and intervention for those who failed.</td>
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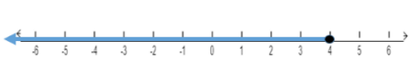
WEEKLY HOME LEARNING PLAN
GRADE 9 - MATHEMATICS

October 19 - 23, 2020

Day & Time	Learning Area	Learning Competency	Learning Task	Mode of Delivery
October 19, 2020 Monday	Mathematics 9 (Patterns & Algebra)	• Solve equations transformable to quadratic equations (including rational algebraic equations) • Solve problems involving quadratic equations and rational algebraic equations	Please refer to Mathematics 9 PIVOT 4A Learner's Material with **Lesson Title: Solving Quadratic Equations and Rational Algebraic Equations** (Week 4 - 5) p. 18 - 21 I. **Activity:** Copy and answer the activity in **Learning Task 1** in **p. 18**. (Write your answer in a 1 whole sheet of paper.) II. **Lesson Proper:** Study **Illustrative Examples** in **p. 18-20**. (You may copy the examples in your Math notebook as part of your references) **a. Illustrative examples** in **p. 18-19** discusses the process on how to solve equations transformable to quadratic equations **b. Illustrative examples** in **p. 19-20** shows the process on how to solve problems involving quadratic equations and rational algebraic equations.	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.
October 20, 2020 Tuesday	Mathematics 9 (Patterns & Algebra)	• Solve equations transformable to quadratic equations (including rational algebraic equations) • Solve problems involving quadratic equations and rational algebraic equations	III. **Application:** Copy and answer the following learning tasks, write your answer in a 1 whole sheet of paper including your solutions) **a. Learning Task 2 (A & B)** in p. 20 **b. Learning Task 3 (A & B)** in p. 21 **c. Learning Task 4** in p. 21 (for additional examples and illustration, you may watch the prepared instructional video posted in our FB Classroom) V. **Reflection:** Explain your understanding in transforming equation to quadratic equations and gives some examples in real-life situations. (Write your answer in a 1 whole sheet of paper) **Note:** All outputs written in the 1 whole sheet of paper must be captured and **turned-in** the designated **Classwork** in our Google Classroom on or before **October 22, 2020 at 5pm.** All outputs must also be compiled in your portfolio to be submitted at the end of the quarter.	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.
October 21, 2020 Wednesday	Mathematics 9 (Patterns & Algebra)	• Illustrate quadratic inequalities • Solve quadratic inequalities • Solve problems involving quadratic inequalities	Please refer to Mathematics 9 PIVOT 4A Learner's Material with **Lesson Title: Quadratic Inequalities** (Week 6) p. 22 - 25 I. **Activity:** Copy and answer the table in **Learning Task 1** in p. 22. (Write your answer in a 1 whole sheet of paper.) **Correction:** **Direction:** Complete the table below by identifying whether the given is a quadratic inequality or not. Put check mark (/) in the column of your choice. II. **Lesson Proper:** Study **Illustrative Examples** in **p. 22 - 24**. (You may copy the examples in your Math notebook as part of your references) a. **Illustrative examples** in **p. 22** explains how to determine whether a given equation is quadratic inequality or not. Example 1, 2 & 3 **are not quadratic inequality** Example 4 is a **quadratic inequality**	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.

			b. I**llustrative Examples** in p. **23 - 24** shows the procedure on how to solve quadratic inequalities.	
October 22, 2020 Thursday	Mathematics 9 (Patterns & Algebra)	• Illustrate quadratic inequalities • Solve quadratic inequalities • Solve problems involving quadratic inequalities	III. **Application:** Copy and answer the following learning tasks, write your answer in a 1 whole sheet of paper including your solutions) **a. Learning Task 2-A** in p. 24 **b. Learning Task 2-B** in p. 24 **Correction:** **Direction:** Write the inequality illustrated in the following number line. 1.  Inequality: _____ 3.  Inequality: _____ 2.  Inequality: _____ 4.  Inequality: _____ **c. Learning Task 3** in p. 25 **Correction**: (Items 1 – 3) **Direction:** Tell whether the given statements below illustrate quadratic inequality in one variable or not, justify your answer by translating each statement into mathematical symbols. **Correction**: (Problem solving) **Direction:** Solve the problem by following the steps in solving problems involving inequalities. d. **Learning Task 4** in p. 25 **Correction**: (Problem Solving) The length of the floor is 8 m longer than its width and the floor area is greater than 20 square meters. You will cover the floor completely with tiles. What will be the possible dimension of the floor? (for additional examples and illustration, you may watch the prepared instructional video posted in our FB Classroom) IV. **Reflection:** What is your overall impressions about the lesson? (Write your answer in a 1 whole sheet of paper.) **Note:** All outputs written in the 1 whole sheet of paper must be captured and **turned-in** the designated **Classwork** in our Google Classroom on or before **October 22, 2020 at 5pm.** All outputs must also be compiled in your portfolio to be submitted at the end of the quarter.	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.
October 23, 2020 Friday			Checking of outputs from October 19 – 22, 2020 and intervention for those who failed.	

WEEKLY HOME LEARNING PLAN
GRADE 9 - MATHEMATICS

October 26 - 30, 2020

Day & Time	Learning Area	Learning Competency	Learning Task	Mode of Delivery
October 26, 2020 Monday	Mathematics 9 (Patterns & Algebra)	• Model real-life situations using quadratic functions • Represent a quadratic function using: a. table of values b. graph c. equations • Transform the quadratic function defined by $y = ax^2 + bx + c$ into the form $y = (x - h)^2 + k$	Please refer to Mathematics 9 PIVOT 4A Learner's Material with **Lesson Title: Modeling and Transforming Quadratic Functions** (Week 7) p. 24 - 29 I. **Activity:** Copy the table and answer the activity in **Learning Task 1** in **p. 26**. (Write your answer in a 1 whole sheet of paper.) II. **Lesson Proper:** Study **Illustrative Examples** in **p. 18-20**. (You may copy the examples in your Math notebook as part of your references) **a. Introductory examples** in **p. 27** gives examples of situations that models quadratic functions in real life. **b. Illustrative examples** in **p. 27** discusses the characteristics on how to tell whether a given equation is a quadratic function or not. It also discusses the different properties of a quadratic function. **c. Illustrative examples** in **p. 28** shows the procedure on how to transform the standard form of a quadratic function defined by $y = ax^2 + bx + c$ into vertex form of $y = (x - h)^2 + k$	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.
October 27, 2020 Tuesday	Mathematics 9 (Patterns & Algebra)	• Model real-life situations using quadratic functions • Represent a quadratic function using: d. table of values e. graph f. equations • Transform the quadratic function defined by $y = ax^2 + bx + c$ into the form $y = (x - h)^2 + k$	III. **Application:** Copy and answer the following learning tasks, write your answer in a 1 whole sheet of paper including your solutions) **a. Learning Task 2 - A** in p. 28 – 29 **b. Learning Task 2 - B** in p. 29 **Correction:** **Direction:** Transform the quadratic function: **$f(x) = x^2 - 4x - 5$** into vertex form by following the provided steps. **c. Learning Task 3** in p. 29 **d. Learning Task 4** in p. 29 (for additional examples and illustration, you may watch the prepared instructional video posted in our FB Classroom) VI. **Reflection:** Explain your understanding about quadratic function and its properties and gives some examples in real-life situations. (Write your answer in a 1 whole sheet of paper) **Note:** All outputs written in the 1 whole sheet of paper must be captured and **turned-in** the designated **Classwork** in our Google Classroom on or before **October 29, 2020 at 5pm.** All outputs must also be compiled in your portfolio to be submitted at the end of the quarter.	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.
October 28, 2020 Wednesday	Mathematics 9 (Patterns & Algebra)	• Graph a quadratic function and determine the following: a. domain b. range c. intercepts d. axis of symmetry e. vertex f. direction of the opening of the parabola	Please refer to Mathematics 9 PIVOT 4A Learner's Material with **Lesson Title: Graphing Quadratic Functions and Analyzing the Effects on its Graph** (Week 8) p. 30 - 34 I. **Activity:** Copy the graph and complete the table in p. 30. (Write your answer in a 1 whole sheet of paper.) **Correction:** **Direction:** Complete the table below by identifying whether the given is a quadratic inequality or not. Put check mark (/) in the column of your choice.	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.

		• Analyze the effects of changing the values of a, h and k in the equation $y = (x - h)^2 + k$ of a quadratic function on its graph	II. **Lesson Proper:** Study **Illustrative Examples** in **p. 31 - 32** (You may copy the examples in your Math notebook as part of your references) a. **Illustrative examples** in **p. 31 - 32** discusses the different properties of the graph of a quadratic function and the effects of the a, h and k in the movement of the graph	
October 29, 2020 Thursday	Mathematics 9 (Patterns & Algebra)	• Graph a quadratic function and determine the following: a. domain b. range c. intercepts d. axis of symmetry e. vertex f. direction of the opening of the parabola • Analyze the effects of changing the values of a, h and k in the equation $y = (x - h)^2 + k$ of a quadratic function on its graph	III. **Application:** Copy and answer the following learning tasks. (Write your answer in a 1 whole sheet of paper including your solutions) a. **Learning Task 2** in p. 30 **Correction:** **Direction:** Sketch the graph of the following quadratic functions and determine the following: a. domain b. range c. direction where the parabola opens d. vertex e. axis of symmetry f. x – intercept/s g. y – intercept b. **Learning Task 3** in p. 33 c. **Learning Task 3-B** in p. 34 (Use only 1 Quadratic Function) d. **Learning Task 4** in p. 34 **Correction:** **Direction:** Sketch the graph of the following quadratic functions then analyze the differences by explaining your observations and conclusions. (for additional examples and illustration, you may watch the prepared instructional video posted in our FB Classroom) IV. **Reflection:** How will you describe the graph of a quadratic function? (Write your answer in a 1 whole sheet of paper.) **Note:** All outputs written in the 1 whole sheet of paper must be captured and **turned-in** the designated **Classwork** in our Google Classroom on or before **October 22, 2020 at 5pm.** All outputs must also be compiled in your portfolio to be submitted at the end of the quarter.	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.
October 30, 2020 Friday			Checking of outputs from October 19 – 22, 2020 and intervention for those who failed.	

WEEKLY HOME LEARNING PLAN
GRADE 9 - MATHEMATICS

November 2 - 6, 2020

Day & Time	Learning Area	Learning Competency	Learning Task	Mode of Delivery
November 2-3, 2020 Monday - Tuesday	Mathematics 9 (Patterns & Algebra)	• Determine the equation of a quadratic function given: a. a table of values b. graph c. zeros • Solve problems involving quadratic function	Please refer to Mathematics 9 PIVOT 4A Learner's Material with **Lesson Title: Graphing Quadratic Functions and Analyzing the Effects on its Graph** (Week 10) p. 35 - 38 I. **Activity:** Copy and complete the table in the activity in **p. 35**. (Write your answer in a 1 whole sheet of paper.) II. **Lesson Proper:** Study **Illustrative Examples** in **p. 18-20**. (You may copy the examples in your Math notebook as part of your references) **a. Illustrative example 1** in **p. 35** explains how to determine/ derive the equation of a quadratic function using table of values. **b. Illustrative example 2** in **p. 36** explains how to determine/ derive the equation of a quadratic function using zeros of a function. **c. Illustrative example 3** in **p. 36** proves the answer in illustrative example 2 **d. Illustrative Example 4** in **p. 36-37** explains how to determine/ derive the equation of a quadratic function using the graph of a quadratic function, specifically using x-intercepts or any point on a graph. **e. Problem Solving Example** in **p. 37** shows the procedure on how to solve problems involving quadratic functions	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.
November 4-5, 2020 Wednesday - Thursday	Mathematics 9 (Patterns & Algebra)	• Determine the equation of a quadratic function given: a. a table of values d. graph e. zeros • Solve problems involving quadratic function	III. **Application:** Copy and answer the following learning tasks, write your answer in a 1 whole sheet of paper including your solutions) **a. Activity** in **p. 37:** Find the equation of the parabolas and express your answer in standard form **b. Learning Task 2 (1 – 2)** in p. 37 **c. Learning Task 2 (Table of values)** in p. 38 **d. Learning Task 3** in p. 38 (for additional examples and illustration, you may watch the prepared instructional video posted in our FB Classroom) VII. **Reflection:** Explain your understanding about the quadratic function and its applications to real life situations. (Write your answer in a 1 whole sheet of paper) **Note:** All outputs written in the 1 whole sheet of paper must be captured and **turned-in** the designated **Classwork** in our Google Classroom on or before **November 5, 2020 at 5pm.** All outputs must also be compiled in your portfolio to be submitted at the end of the quarter.	Online submission of output through Google Classroom and FB Classroom or Messenger. Compilation of outputs will also be done through Portfolio making.
November 6, 2020 Friday			Checking of outputs from November 2 - 5, 2020 and intervention for those who failed.	