Foundations and Pre-Calculus 10

Name: KEY

Learning Target 2 – 1: Relations and Function

Learning Target $(L-T)$	Procedural Context
$2-1$ **Relations and Functions**	• Understand the Difference between: Relations, Functions, and $1-1$ Functions • Using the Vertical and Horizontal Line Test to distinguish between the three scenarios • Understanding input/output with respect to x/y • Graphing Non-Linear Equations • Domain and Range

Self-Reflection

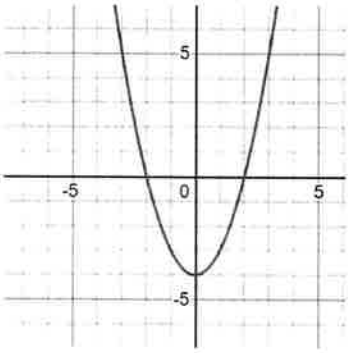
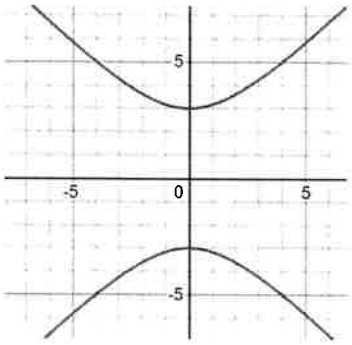
For this Learning Target I am feeling:

Discuss your work habits leading up to this Check-In:

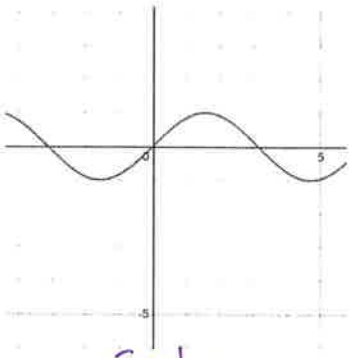
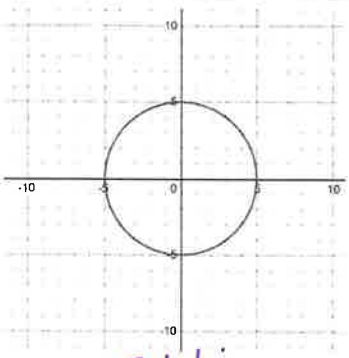
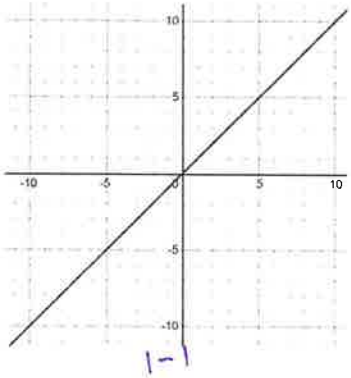
Your Level of Understanding of this Learning Target is:

My Feedback:

1. Determine the Domain and Range of the following:

Emerging	Emerging	Proficient
$(-1,4),(-2,4),(-3,4)$		
Domain: $\{-3,-2,-1\}$	Domain: $\{x \mid x \in \mathbb{R}\}$	Domain: $\{x \mid x \in \mathbb{R}\}$
Range: $\{4\}$	Range: $\{y \mid y \geq -4; y \in \mathbb{R}\}$	Range: $\{y \mid y \geq 3 \text{ and } y \leq -3; y \in \mathbb{R}\}$

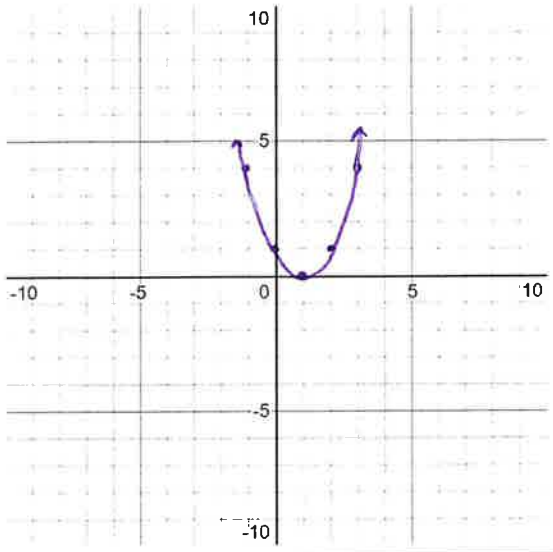
2. Are the following graphs 1-1 Functions, Functions, or Just Relations? How do you know?

Emerging	Emerging	Emerging
		
Function	Relation	1-1
Explain: Passes VLT not HLT	Explain: Does not pass VLT	Explain: Passes VLT + HLT

3. Graph the Non-Linear Equations, State the Axis of Symmetry, the Vertex, and Domain/Range

Emerging

$y = (x-1)^2$



Axis of Symmetry: $x = 1$ **Vertex:** $(1,0)$

Domain: $\{x \mid x \in \mathbb{R}\}$ **Range:** $\{y \mid y \geq 0; y \in \mathbb{R}\}$

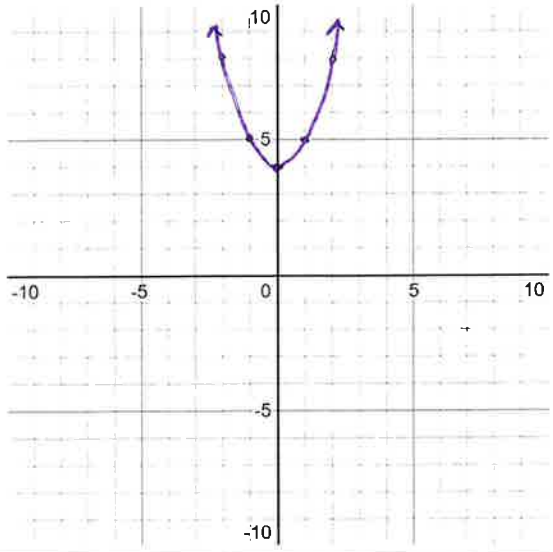
Work Space

x								
y								

4. Graph the Non-Linear Equations, State the Axis of Symmetry, the Vertex, and Domain/Range

Emerging

$y = x^2 + 4$



Axis of Symmetry: $x = 0$ **Vertex:** $(0,4)$

Domain: $\{x \mid x \in \mathbb{R}\}$ **Range:** $\{y \mid y \geq 4; y \in \mathbb{R}\}$

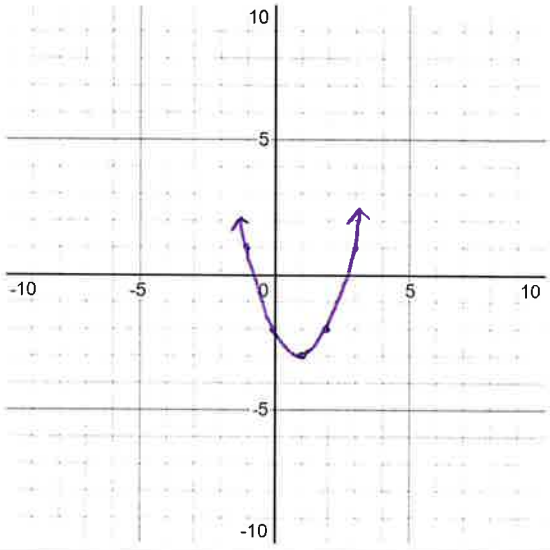
Work Space

x								
y								

5. Graph the Non-Linear Equations, State the Axis of Symmetry, the Vertex, and Domain/Range

Proficient

$y = (x-1)^2 - 3$



Axis of Symmetry: $x = 1$ **Vertex:** $(1,-3)$

Domain: $\{x \mid x \in \mathbb{R}\}$ **Range:** $\{y \mid y \geq -3; y \in \mathbb{R}\}$

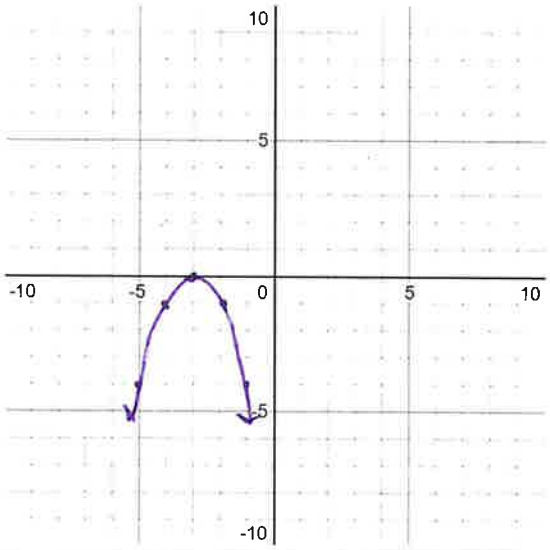
Work Space

x								
y								

6. Graph the Non-Linear Equations, State the Axis of Symmetry, the Vertex, and Domain/Range

Proficient

$y = -(x+3)^2$



Axis of Symmetry: $x = -3$ **Vertex:** $(-3,0)$

Domain: $\{x \mid x \in \mathbb{R}\}$ **Range:** $\{y \mid y \leq 0; y \in \mathbb{R}\}$

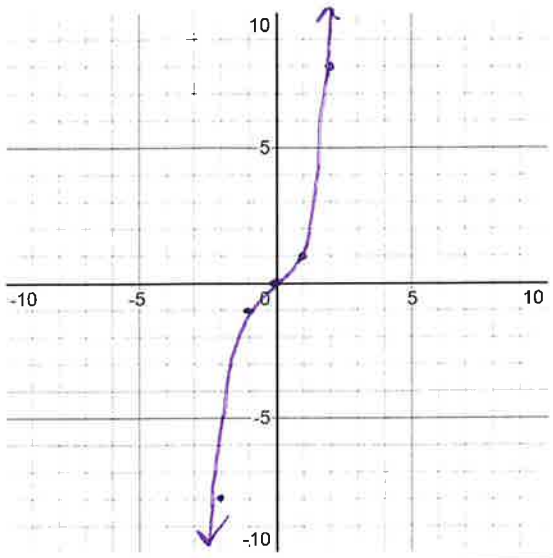
Work Space

x								
y								

7. Graph the following Non-Linear Equation.

Extending

$y = x^3$



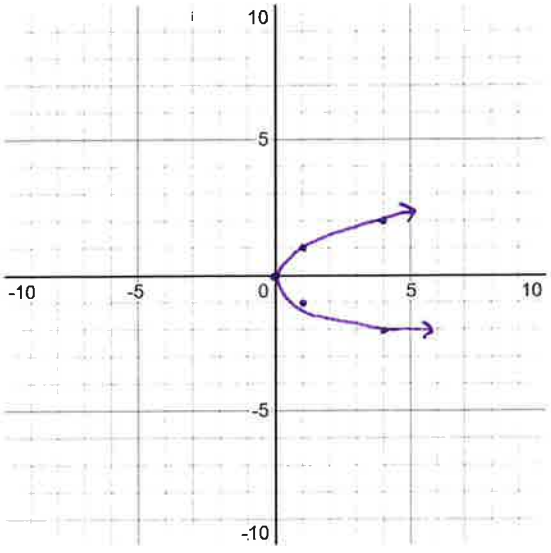
Work Space

x								
y								

8. Graph the following Non-Linear Equation.

Extending

$x = y^2$



Work Space

x								
y								