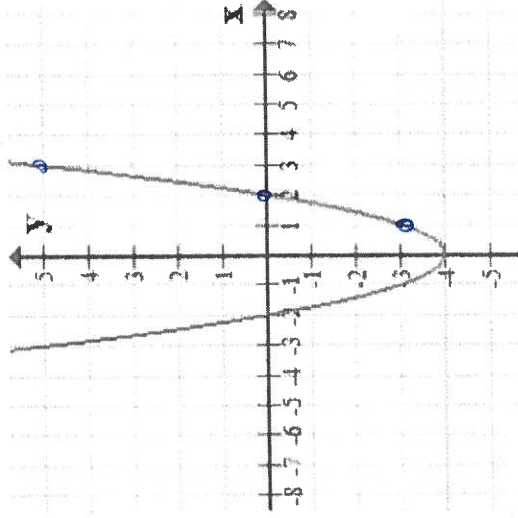
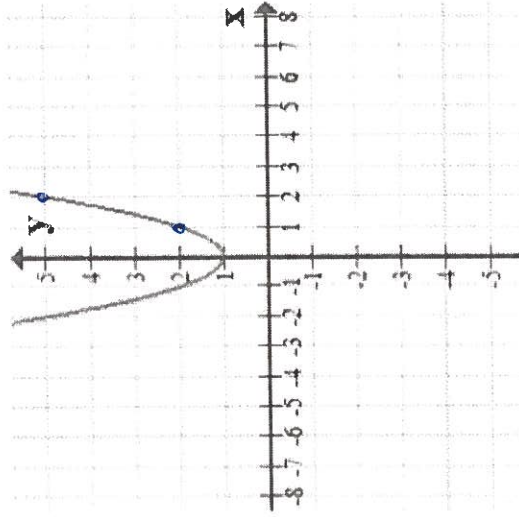
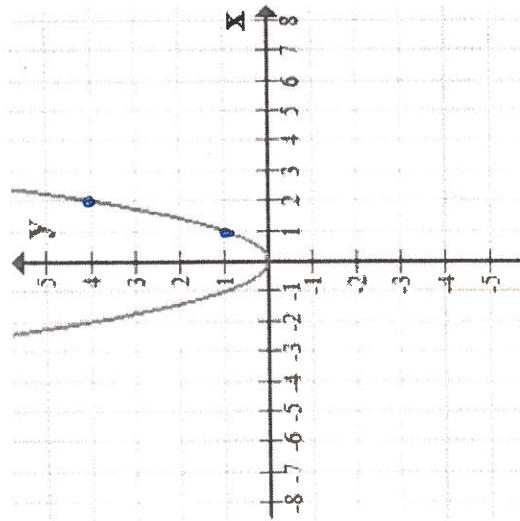


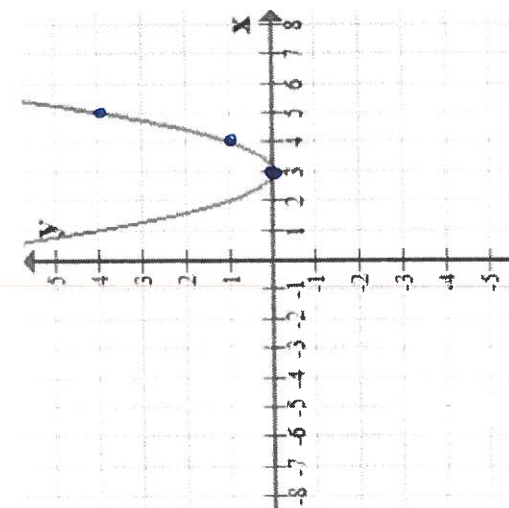
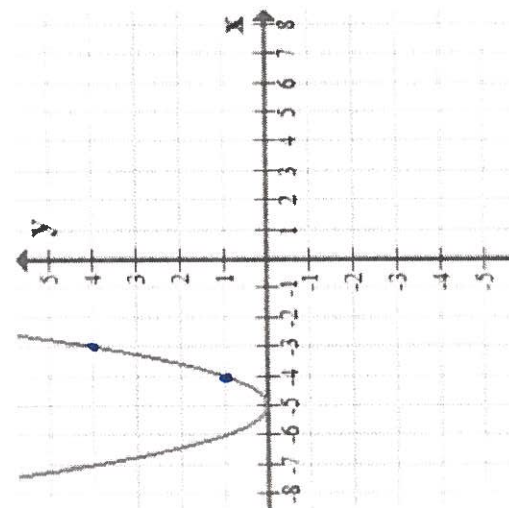
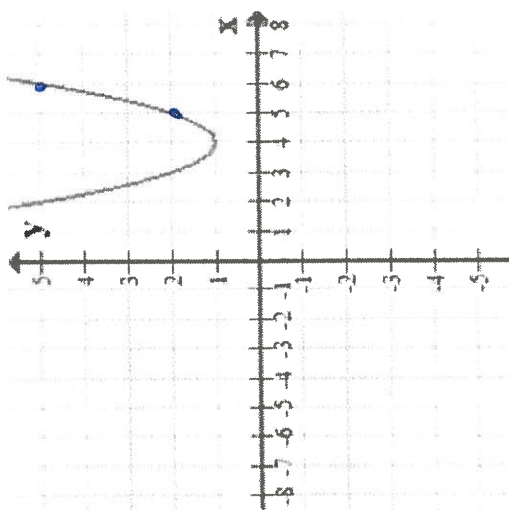
MPM2D – Unit 2: The Quadratic Relation Review Worksheet – Part 2

State the properties of each of the quadratic relations shown below by completing the table at the bottom of the page.



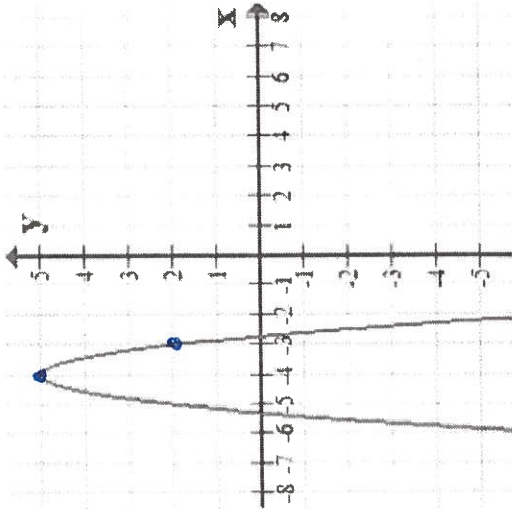
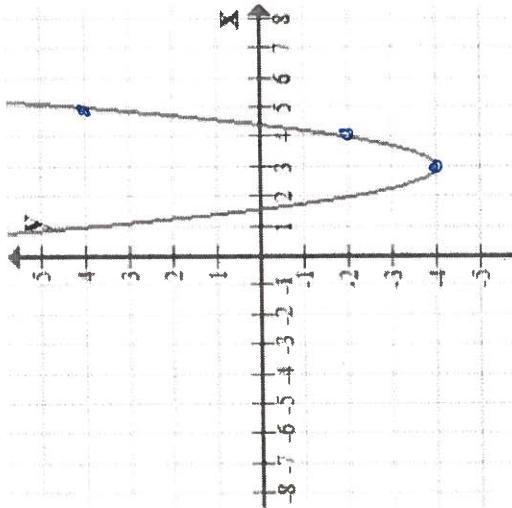
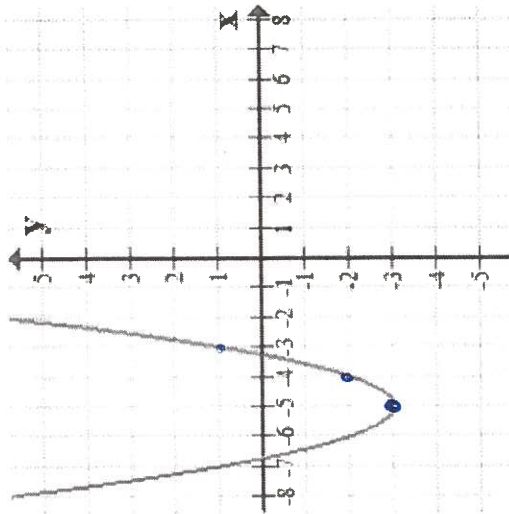
Equation	Vertex	Over 1 Points	Over 2 Points	Axis of Symmetry	Maximum or Minimum Point	Maximum or Minimum Value	Domain	Range
$y = x^2$	(0, 0)	up 1	up 4	$x = 0$	min	$y = 0$	$D = \{x \in \mathbb{R}\}$	$R = \{y \geq 0, y \in \mathbb{R}\}$
$y = x^2 + 1$	(0, 1)	up 1	up 4	$x = 0$	min	$y = 1$	$D = \{x \in \mathbb{R}\}$	$R = \{y \geq 1, y \in \mathbb{R}\}$
$y = x^2 - 4$	(0, -4)	up 1	up 4	$x = 0$	min	$y = -4$	$D = \{x \in \mathbb{R}\}$	$R = \{y \geq -4, y \in \mathbb{R}\}$

State the properties of each of the quadratic relations shown below by completing the table at the bottom of the page.



Equation	Vertex	Over 1 Points	Over 2 Points	Axis of Symmetry	Maximum or Minimum Point	Maximum or Minimum Value	Domain	Range
$y = (x-3)^2$	(3, 0)	up 1	up 4	$x = 3$	min	$y = 0$	$D = \{x \in \mathbb{R}\}$	$R = \{y \geq 0, y \in \mathbb{R}\}$
$y = (x+5)^2$	(-5, 0)	up 1	up 4	$x = -5$	min	$y = 0$	$D = \{x \in \mathbb{R}\}$	$R = \{y \geq 0, y \in \mathbb{R}\}$
$y = (x-4)^2 + 1$	(4, 1)	up 1	up 4	$x = 4$	min	$y = 1$	$D = \{x \in \mathbb{R}\}$	$R = \{y \geq 1, y \in \mathbb{R}\}$

State the properties of each of the quadratic relations shown below by completing the table at the bottom of the page.



Equation	Vertex	Over 1 Points	Over 2 Points	Axis of Symmetry	Maximum or Minimum Point	Maximum or Minimum Value	Domain	Range
$y = (x+5)^2 - 3$	$(-5, -3)$	up 1	up 4	$x = -5$	min	$y = -3$	$D = \{x \in \mathbb{R}\}$	$R = \{y \geq -3, y \in \mathbb{R}\}$
$y = 2(x-3)^2 - 4$	$(3, -4)$	up 2	up 8	$x = 3$	min	$y = -4$	$D = \{x \in \mathbb{R}\}$	$R = \{y \geq -4, y \in \mathbb{R}\}$
$y = -3(x+4)^2 + 5$	$(-4, 5)$	down 3	down 12	$x = -4$	max	$y = 5$	$D = \{x \in \mathbb{R}\}$	$R = \{y \leq 5, y \in \mathbb{R}\}$

not shown on graph