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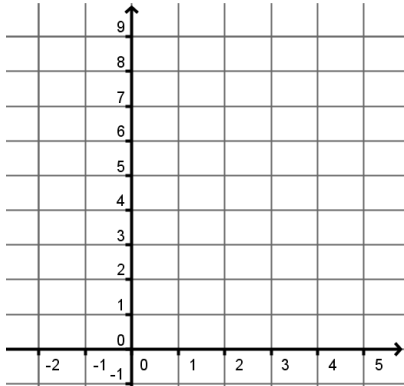
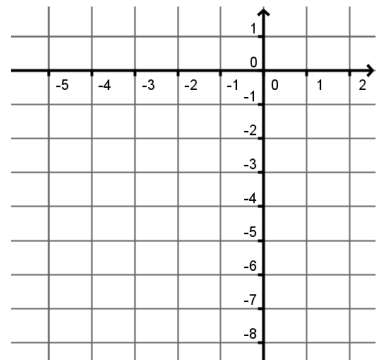
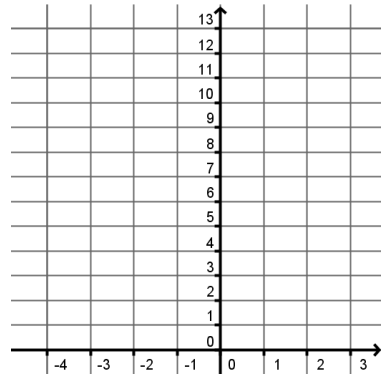
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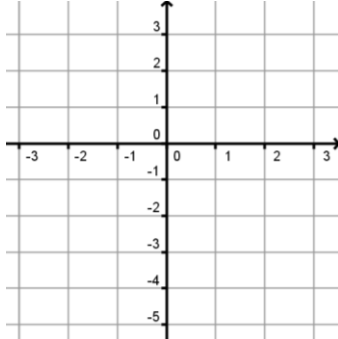
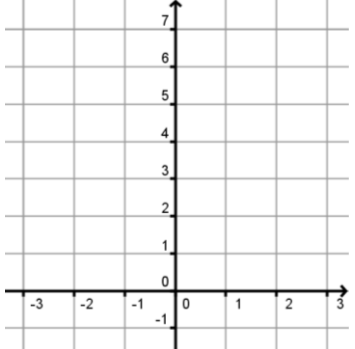
Period:

Practice Worksheet: Graphing Quadratic Functions in Standard Form

- 1] For any quadratic of the form $y = ax^2 + c$, the axis of symmetry is always the line _____.
- 2] If the axis of symmetry of a quadratic is $x = 2$ and $(-1, 3)$ is on the graph, then the point (____, ____) must also be on the graph.
- 3] For any quadratic of the form $y = ax^2 + c$, the y-intercept is always the same point as the _____.
- 4] The graph of $y = 2x^2 + 4x + 3$ passes through the point $(1, \text{_____})$ and $(-1, \text{_____})$.

For #5-12, label the axis of symmetry, vertex, y-intercept, and at least three more points on the graph.

<p>5] $y = x^2 - 4x + 8$ $a = \quad b = \quad c =$ Opens up or down? Is vertex a max or min? y-intercept: Axis of Symmetry is $x = \text{_____}$</p> <p>Vertex: (_____, _____)</p> 	<p>6] $y = 2x^2 + 8x$ $a = \quad b = \quad c =$ Opens up or down? Is vertex a max or min? y-intercept: Axis of Symmetry is $x = \text{_____}$</p> <p>Vertex: (_____, _____)</p> 	<p>7] $y = -3x^2 - 12x + 1$ $a = \quad b = \quad c =$ Opens up or down? Is vertex a max or min? y-intercept: Axis of Symmetry is $x = \text{_____}$</p> <p>Vertex: (_____, _____)</p> 
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<p>8] $y = -\frac{3}{2}x^2 + 3$ $a = \quad b = \quad c =$ Opens up or down? Is vertex a max or min? y-intercept: Axis of Symmetry is $x = \text{_____}$</p> <p>Vertex: (_____, _____)</p> <p>Find the coordinates $(2, \text{_____})$ and $(-2, \text{_____})$ to guide the shape of the parabola.</p> 	<p>9] $y = 2x^2 - 1$ $a = \quad b = \quad c =$ Opens up or down? Is vertex a max or min? y-intercept: Axis of Symmetry is $x = \text{_____}$</p> <p>Vertex: (_____, _____)</p> <p>Find the coordinates $(2, \text{_____})$ and $(-2, \text{_____})$ to guide the shape of the parabola.</p> 
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10] $y = 2x^2 + 4x + 3$

a = b = c =

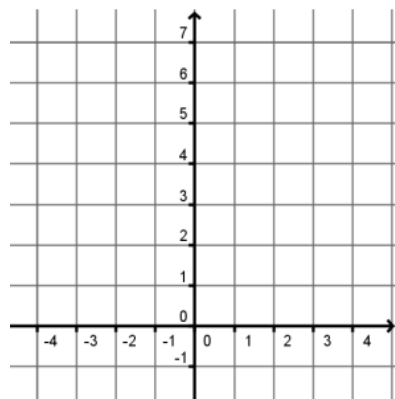
Opens up or down?

Is vertex a max or min?

y-intercept:

Axis of Symmetry is x= _____

Vertex: (_____, _____)



Read your graph to find the coordinates of the points:

(1, _____), (3, _____), and

(4, _____).

11] $y = \frac{1}{3}x^2 + 2x - 1$

a = b = c =

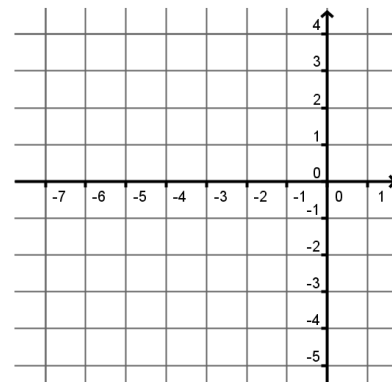
Opens up or down?

Is vertex a max or min?

y-intercept:

Axis of Symmetry is x= _____

Vertex: (_____, _____)



Read your graph to find the coordinates of the points:

(-6, _____), (-4, _____),

and (-2, _____).

12] $y = -\frac{1}{2}x^2 - 2x - 2$

a = b = c =

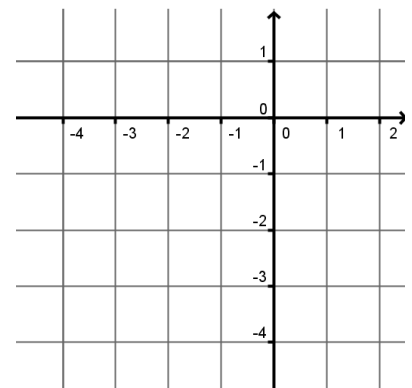
Opens up or down?

Is vertex a max or min?

y-intercept:

Axis of Symmetry is x= _____

Vertex: (_____, _____)



Read your graph to find the coordinates of the points:

(-4, _____), (-3, _____),

and (-1, _____).

13] A baker has modeled the monthly operating costs for making wedding cakes by the function $y = \frac{1}{2}x^2 - 12x + 150$ where y is the total cost in dollars and x is the number of cakes prepared.

A] What is the minimum operating cost?

B] How many cakes should be prepared to yield the minimum operating cost?

14] The path that a motocross dirt bike rider follows during a jump is given by $y = -0.4x^2 + 4x + 10$ where x is the horizontal distance (in feet) from the edge of the ramp and y is the height (in feet). What is the maximum height of the rider during the jump?