Name: Date: Period:

Score:	First attempt due:
	Final corrections due:

Practice Worksheet:
Quadratic Functions in Standard Form

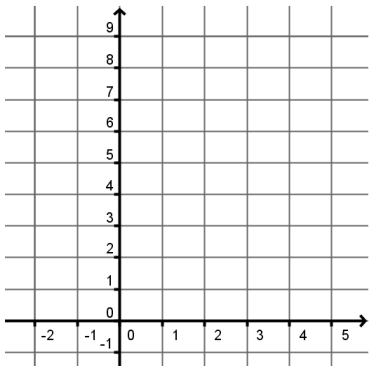
1] For any quadratic of the form $y = ax^2 + c$, the axis of symmetry is always the line _____.

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.

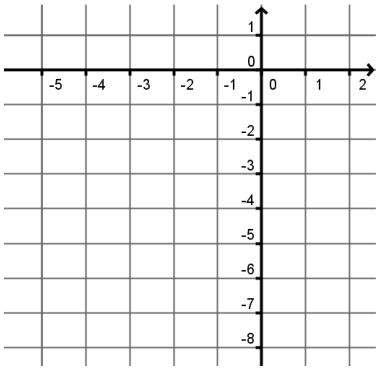
3] For any quadratic of the form $y = ax^2 + c$, the y-intercept is always the same point as the _____.

For #4-11, fill in the blanks. Then NEATLY sketch the graphs in pencil.

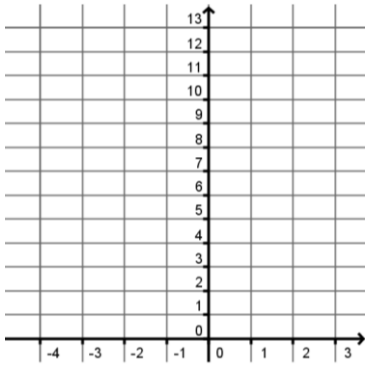
4] $y = x^2 - 4x + 8$
a = b = c =
Opens up or down?
Is vertex a max or min?
y-intercept: (0,_____)
Axis of Symmetry is x=_____
Vertex: (___,___)
Use a to find pts 1 unit L/R of vertex at (___,___) and (___,___)



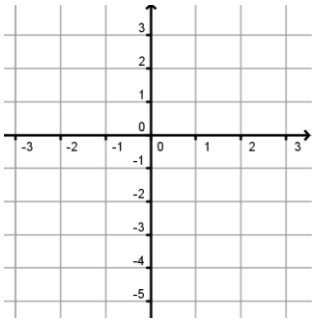
5] $y = 2x^2 + 8x$
a = b = c =
Opens up or down?
Is vertex a max or min?
y-intercept: (0,_____)
Axis of Symmetry is x=_____
Vertex: (___,___)
Use a to find pts 1 unit L/R of vertex at (___,___) and (___,___)



6] $y = -3x^2 - 12x + 1$
a = b = c =
Opens up or down?
Is vertex a max or min?
y-intercept: (0,_____)
Axis of Symmetry is x=_____
Vertex: (___,___)
Use a to find pts 1 unit L/R of vertex at (___,___) and (___,___)

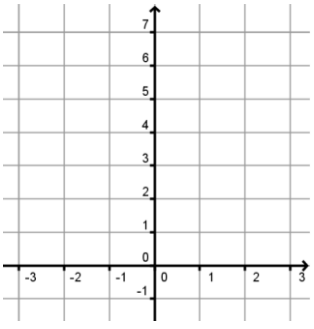


7] $y = -\frac{3}{2}x^2 + 3$
a = b = c =
Opens up or down?
Is vertex a max or min?
y-intercept: (0, ___)
Axis of Symmetry: x=_____
Vertex: (_____, _____)
Use a to find pts 1 unit L/R of vertex at (___,___) and (___,___)



Find the coordinates (2, _____) and (-2, _____)

8] $y = 2x^2 - 1$
a = b = c =
Opens up or down?
Is vertex a max or min?
y-intercept: (0, ___)
Axis of Symmetry: x=_____
Vertex: (_____, _____)
Use a to find pts 1 unit L/R of vertex at (___,___) and (___,___)



Find the coordinates (2, _____) and (-2, _____)

9] $y = x^2 + 4x + 3$

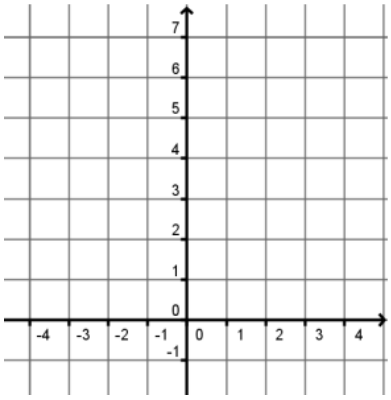
a = b = c =

y-intercept: (0, ____)

Axis of Symmetry is x=_____

Vertex: (___,___)

Use a to find pts 1 unit L/R of vertex at (___,___) and (___,___)



Find the coordinates of the points:

(-4, ___) and (1,____)

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

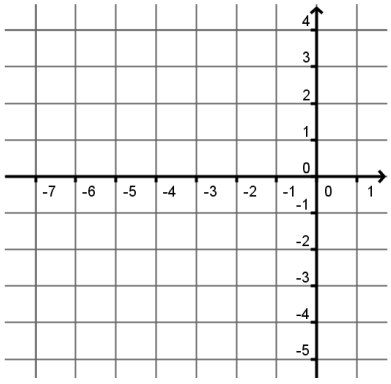
a = b = c =

y-intercept: (0, ____)

Axis of Symmetry is x=_____

Vertex: (___,___)

Use a to find pts 1 unit L/R of vertex at (___,___) and (___,___)



Find the coordinates of the points:

(-6, ___) and (1,___)

11] $y = -\frac{1}{2}x^2 - 4x - 2$

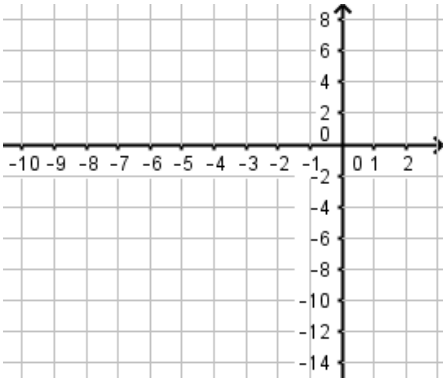
a = b = c =

y-intercept: (0, ____)

Axis of Symmetry is x=_____

Vertex: (___,___)

Use a to find pts 1 unit L/R of vertex at (___,___) and (___,___)



Find the coordinates of the points:

(-6, ___), and (2,____)

12] 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. How many cakes should be prepared to yield the minimum operating cost? Show work and give units with your answer.

13] 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? Show work and give units with your answer.