SM 2

Name:_____Period:_____

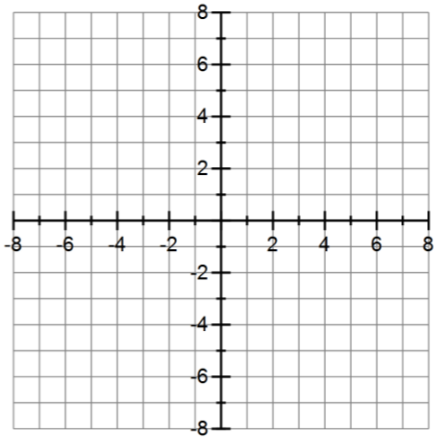
7.2 Graphing Quadratic Functions: Vertex and Axis of Symmetry

State the vertex and graph each parabola. Clearly mark the vertex <u>and four other points</u> on the graph.

1. $y = x^2 + 2x - 1$ Vertex: _____

Form of the equation: _____

$a =$ _____ $b =$ _____

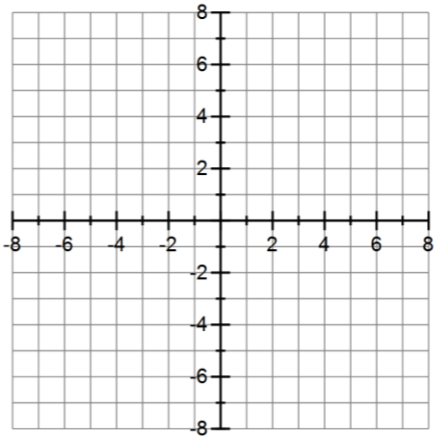


	x	y
Vertex		

2. $y = -(x-2)^2 + 4$ Vertex: _____

Form of the equation: _____

$a =$ _____, $h =$ _____ $k =$ _____

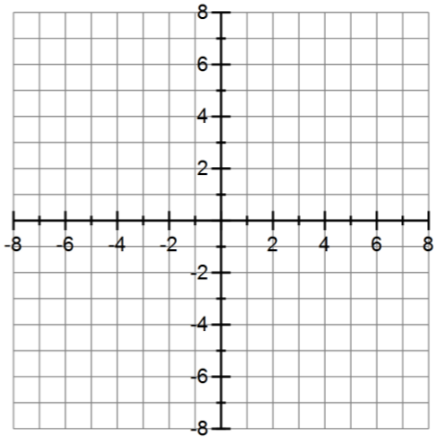


	x	y
Vertex		

3. $f(x) = -x^2 - 4x$ Vertex: _____

Form of the equation: _____

$a =$ _____ $b =$ _____

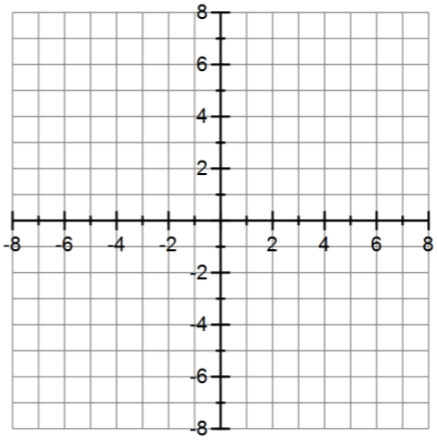


	x	y
Vertex		

4. $y = 3(x-1)^2 - 8$ Vertex: _____

Form of the equation: _____

$a =$ _____, $h =$ _____ $k =$ _____

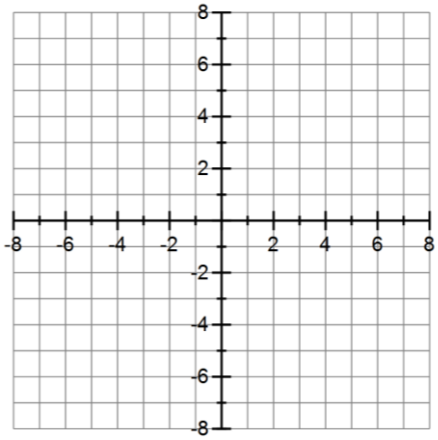


	x	y
Vertex		

5. $f(x)=x^2-8x+15$ Vertex: _____

Form of the equation: _____

$a=$ _____ $b=$ _____

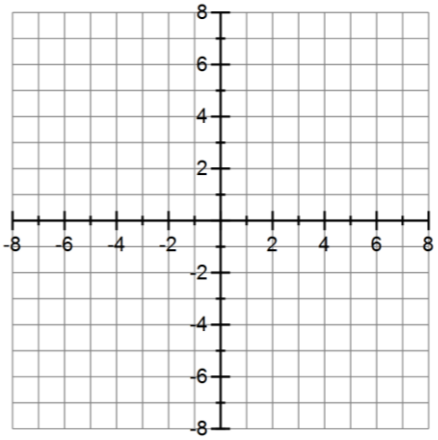


	x	y
Vertex		

6. $y=\frac{1}{2}(x+3)^2-5$ Vertex:_____

Form of the equation: _____

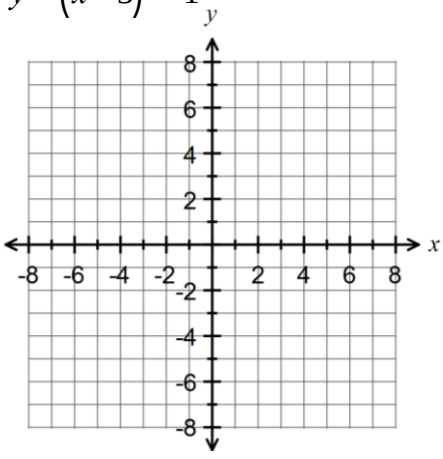
$a=$ _____, $h=$ _____ $k=$ _____



	x	y
Vertex		

Fill in the requested information for each function. Draw the graph. You need <u>AT LEAST 5 POINTS</u>!

7. $y=(x+3)^2+1$



Vertex: _____

Axis of Symmetry: _____

Direction of Opening: _____

Is the vertex a maximum or a minimum? _____

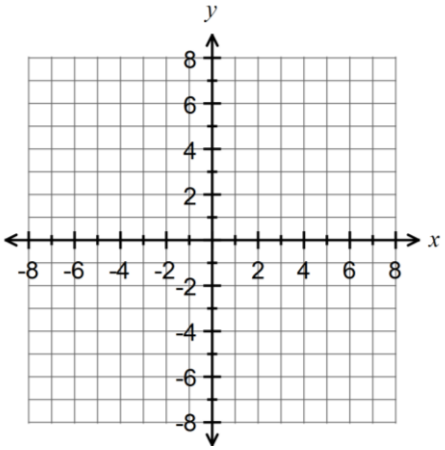
Maximum or minimum value: _____

y-intercept: _____

Domain: _____

Range: _____

8. $y = 2x^2 - 5$



Vertex: _____

Axis of Symmetry: _____

Direction of Opening: _____

Is the vertex a maximum or a minimum? _____

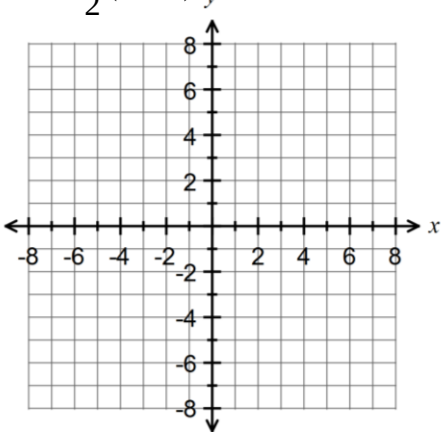
Maximum or minimum value: _____

y-intercept: _____

Domain: _____

Range: _____

9. $y = -\frac{1}{2}(x+2)^2$



Vertex: _____

Axis of Symmetry: _____

Direction of Opening: _____

Is the vertex a maximum or a minimum? _____

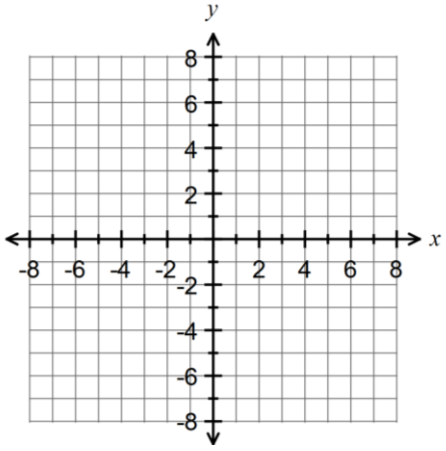
Maximum or minimum value: _____

y-intercept: _____

Domain: _____

Range: _____

10. $f(x) = -x^2 + 6x - 7$



Vertex: _____

Axis of Symmetry: _____

Direction of Opening: _____

Is the vertex a maximum or a minimum? _____

Maximum or minimum value: _____

y-intercept: _____

Domain: _____

Range: _____