

Name:

Period:

First  
Score:

First attempt due:

Final  
Score:

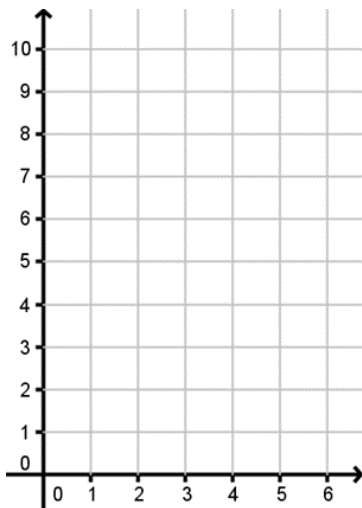
Final corrections due:

**Practice:****Quadratics in Vertex Form****For #1-6, fill in the blanks. Then NEATLY sketch the graphs in pencil.**

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

Axis of Symmetry is  $x = \underline{\hspace{2cm}}$ Vertex:  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ 

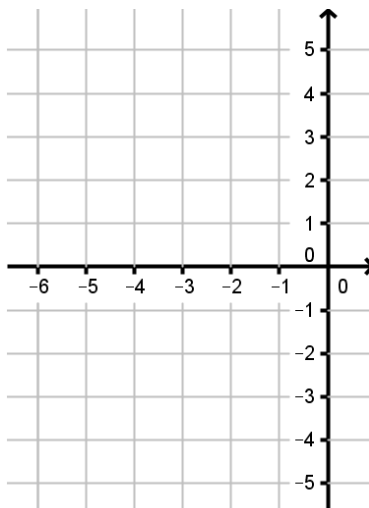
Opens up or down?

Use  $a$  to find pts 1 unit L/R of vertexat  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$  and  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ y-intercept:  $(0, \underline{\hspace{1cm}})$ extra points  $(1, \underline{\hspace{1cm}})$  and  $(5, \underline{\hspace{1cm}})$ 

2]  $y = -(x + 3)^2 + 5$

Axis of Symmetry is  $x = \underline{\hspace{2cm}}$ Vertex:  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ 

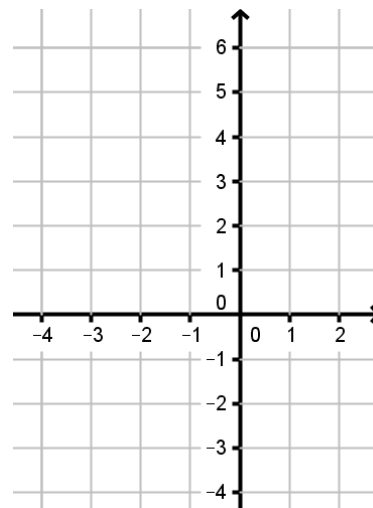
Opens up or down?

Use  $a$  to find pts 1 unit L/R of vertexat  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$  and  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ y-intercept:  $(0, \underline{\hspace{1cm}})$ extra points  $(-5, \underline{\hspace{1cm}})$  and  $(-6, \underline{\hspace{1cm}})$ 

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

Axis of Symmetry is  $x = \underline{\hspace{2cm}}$ Vertex:  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ 

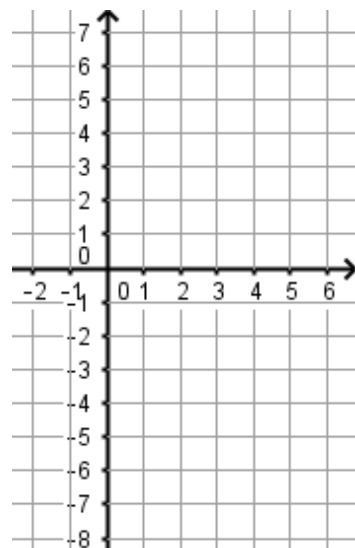
Opens up or down?

Use  $a$  to find pts 1 unit L/R of vertexat  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$  and  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ y-intercept:  $(0, \underline{\hspace{1cm}})$ extra point  $(-3, \underline{\hspace{1cm}})$  and  $(1, \underline{\hspace{1cm}})$ 

4]  $y = -\frac{3}{2}(x - 2)^2 + 6$

Axis of Symmetry is  $x = \underline{\hspace{2cm}}$ Vertex:  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ 

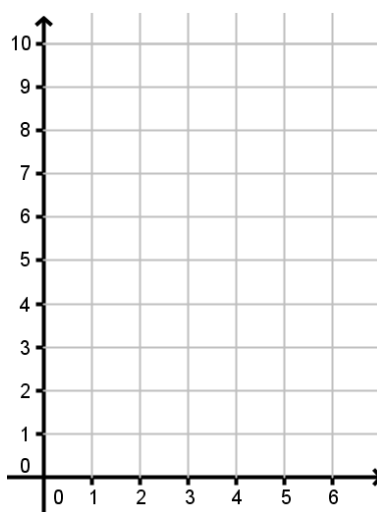
Opens up or down?

Use  $a$  to find pts 1 unit L/R of vertexat  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$  and  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ y-intercept:  $(0, \underline{\hspace{1cm}})$ extra points  $(-1, \underline{\hspace{1cm}})$  and  $(4, \underline{\hspace{1cm}})$ 

5]  $y = \frac{1}{2}(x - 3)^2 + 2$

Axis of Symmetry is  $x = \underline{\hspace{2cm}}$ Vertex:  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ 

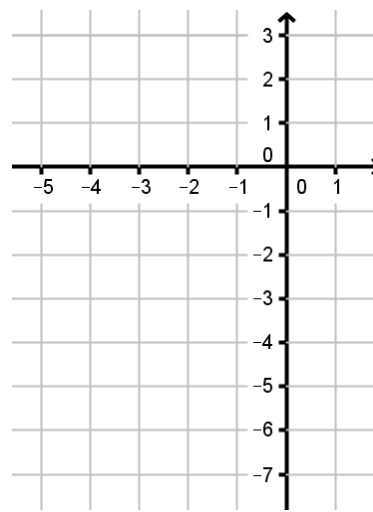
Opens up or down?

Use  $a$  to find pts 1 unit L/R of vertexat  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$  and  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ y-intercept:  $(0, \underline{\hspace{1cm}})$ extra points  $(1, \underline{\hspace{1cm}})$  and  $(6, \underline{\hspace{1cm}})$ 

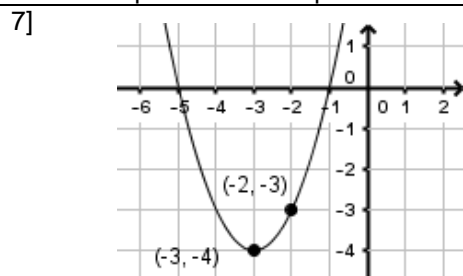
6]  $y = -\frac{1}{4}(x + 2)^2 + 1$

Axis of Symmetry is  $x = \underline{\hspace{2cm}}$ Vertex:  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ 

Opens up or down?

Use  $a$  to find pts 1 unit L/R of vertexat  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$  and  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ y-intercept:  $(0, \underline{\hspace{1cm}})$ extra points  $(1, \underline{\hspace{1cm}})$  and  $(-4, \underline{\hspace{1cm}})$ 

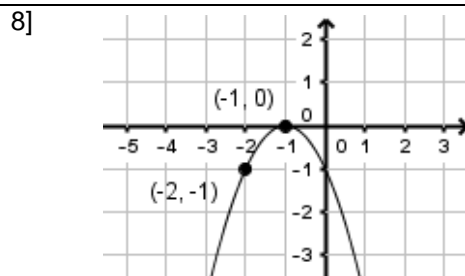
Write the equation of each parabola in vertex form. Then find the domain and range.



Equation:

Domain:

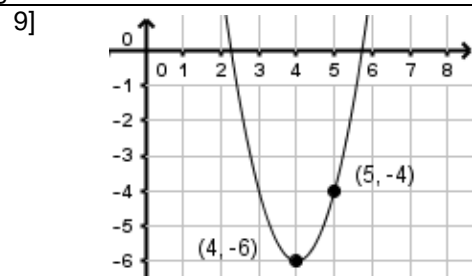
Range:



Equation:

Domain:

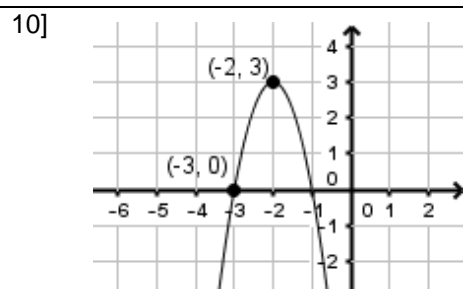
Range:



Equation:

Domain:

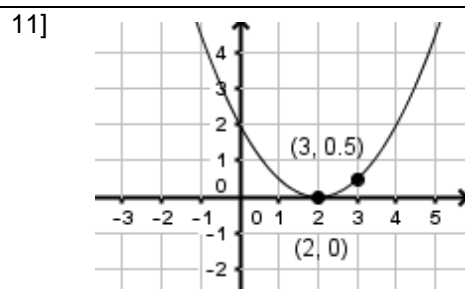
Range:



Equation:

Domain:

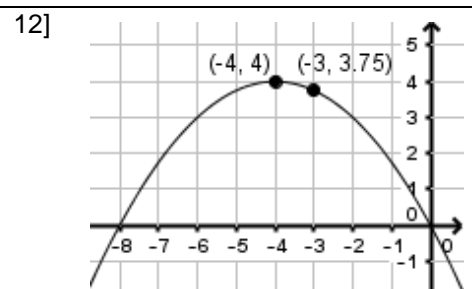
Range:



Equation:

Domain:

Range:



Equation:

Domain:

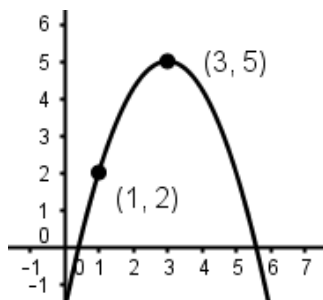
Range:

Write the quadratic function in standard form  $y = ax^2 + bx + c$ . Show all work.

13]  $y = -(x + 2)^2$

14]  $y = (x - 2)^2 + 4$

15]  $y = 2(x - 3)^2 + 9$



**Bonus:** Write the equation in vertex form of the parabola that passes through the points shown in the graph. Show all work or explain your reasoning in detail.