

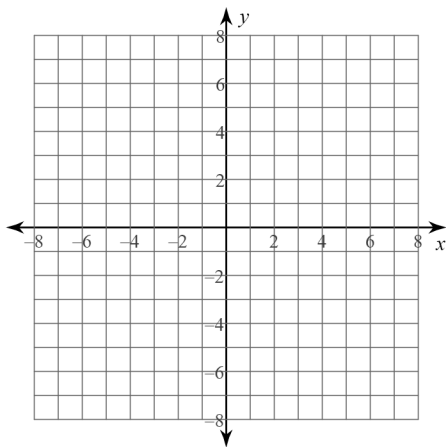
Vertex Form of a Quadratic Function - Extra Practice

Date _____

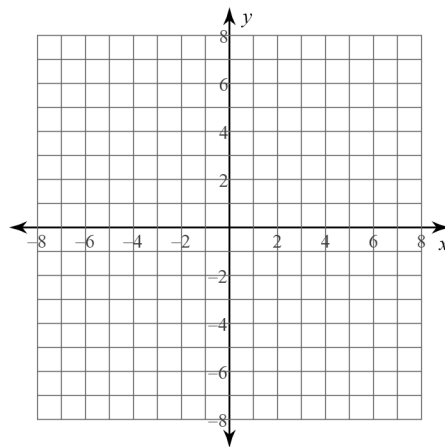
© 2011 Kuta Software LLC. All rights reserved.

Identify the vertex, axis of symmetry, direction of opening, and min/max value of each. Then sketch the graph.

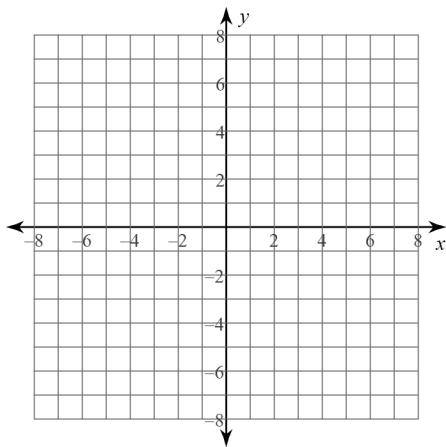
1) $y = \frac{1}{4}(x + 2)^2 - 2$



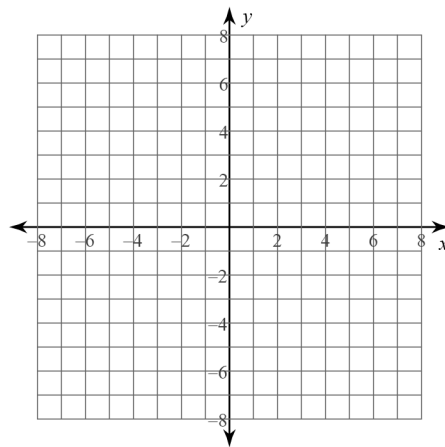
2) $y = \frac{1}{4}(x - 5)^2 - 3$



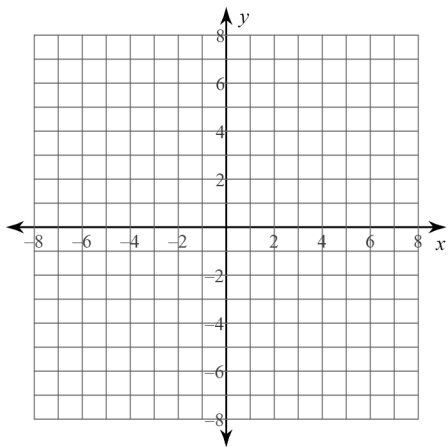
3) $y = -(x - 6)^2 - 3$



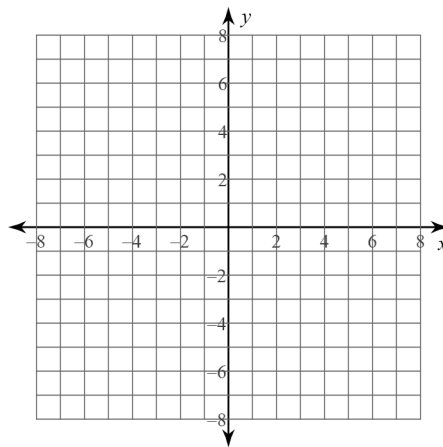
4) $y = -(x + 5)^2 + 3$



5) $y = 2(x - 5)^2 - 6$



6) $y = -(x + 4)^2$



Use the information provided to write the vertex form equation of each parabola.

7) Opens up or down, Vertex: $(9, -10)$, Passes through: $(7, 6)$

8) Opens up or down, Vertex: $(-1, -6)$, Passes through: $(-3, 2)$

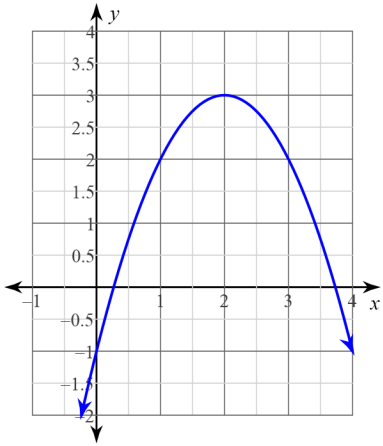
9) Opens up or down, Vertex: $(-4, -3)$, Passes through: $(-7, 6)$

10) Opens up or down, Vertex: $(-5, 5)$, Passes through: $(-6, \frac{17}{3})$

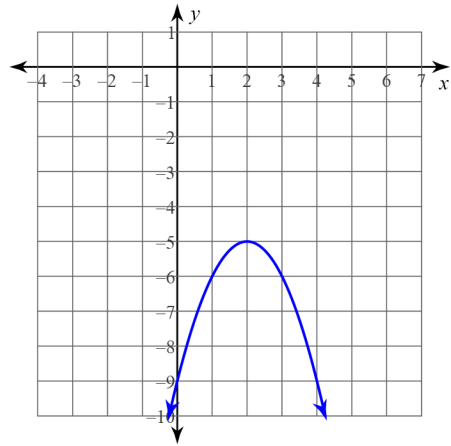
11) Opens up or down, Vertex: $(-4, -3)$, Passes through: $(-1, -21)$

12) Opens up or down, Vertex: $(-7, -4)$, Passes through: $(-4, -\frac{17}{2})$

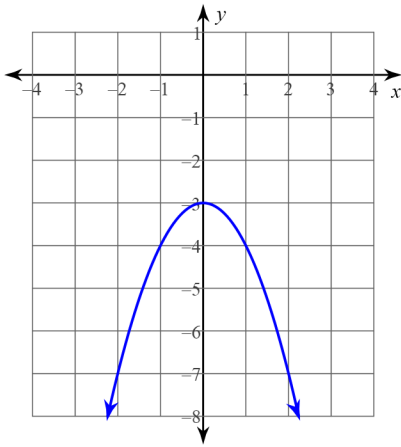
13)



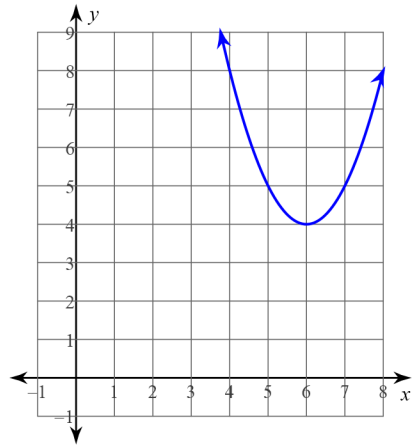
14)



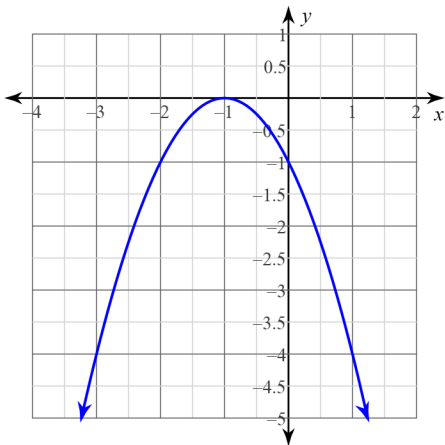
15)



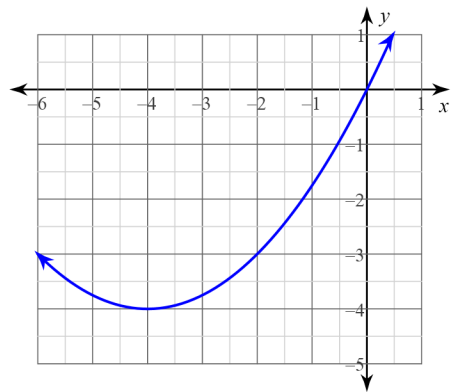
16)



17)

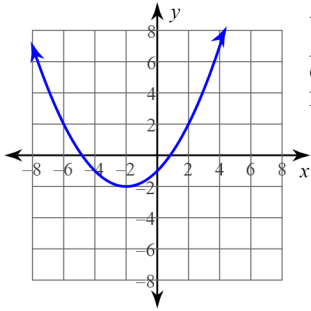


18)



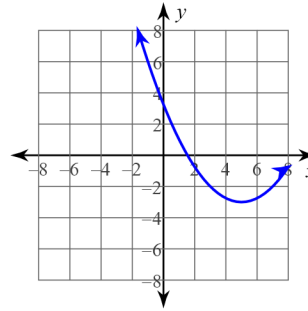
Answers to Vertex Form of a Quadratic Function - Extra Practice (ID: 1)

1)



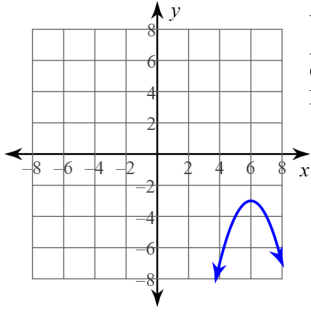
Vertex: $(-2, -2)$
 Axis of Sym.: $x = -2$
 Opens: Up
 Min value = -2

2)



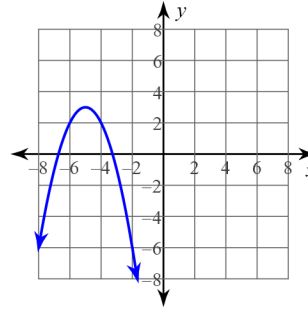
Vertex: $(5, -3)$
 Axis of Sym.: $x = 5$
 Opens: Up
 Min value = -3

3)



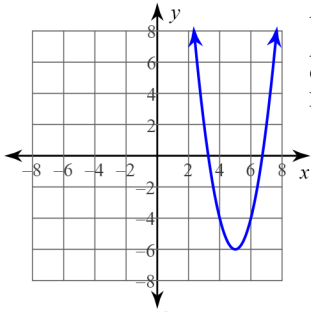
Vertex: $(6, -3)$
 Axis of Sym.: $x = 6$
 Opens: Down
 Max value = -3

4)



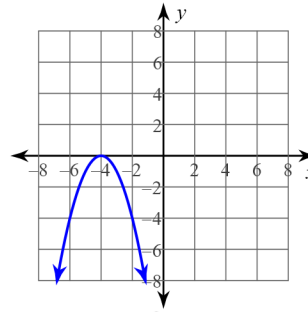
Vertex: $(-5, 3)$
 Axis of Sym.: $x = -5$
 Opens: Down
 Max value = 3

5)



Vertex: $(5, -6)$
 Axis of Sym.: $x = 5$
 Opens: Up
 Min value = -6

6)



Vertex: $(-4, 0)$
 Axis of Sym.: $x = -4$
 Opens: Down
 Max value = 0

7) $y = 4(x - 9)^2 - 10$

8) $y = 2(x + 1)^2 - 6$

9) $y = (x + 4)^2 - 3$

10) $y = \frac{2}{3}(x + 5)^2 + 5$

11) $y = -2(x + 4)^2 - 3$

12) $y = -\frac{1}{2}(x + 7)^2 - 4$

13) $y = -(x - 2)^2 + 3$

14) $y = -(x - 2)^2 - 5$

15) $y = -x^2 - 3$

16) $y = (x - 6)^2 + 4$

17) $y = -(x + 1)^2$

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