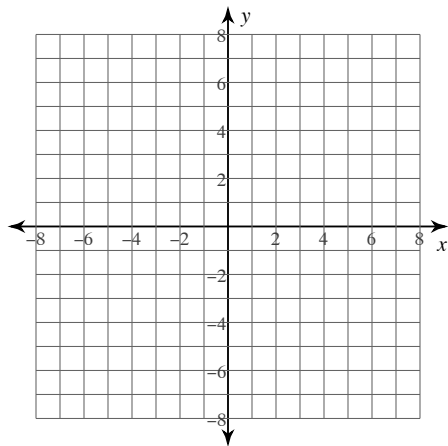


Assignment

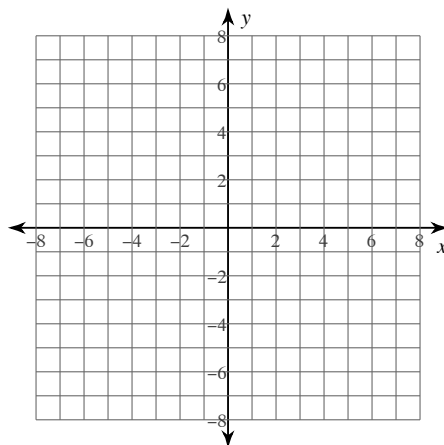
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Identify the vertex, axis of symmetry, direction of opening, and min/max value of each. Then sketch the graph.

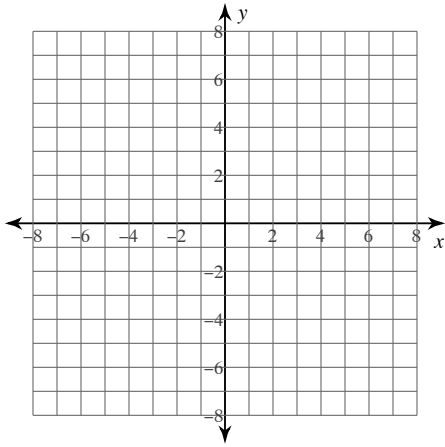
1) $y = \frac{1}{3}x^2 - 2x + 9$



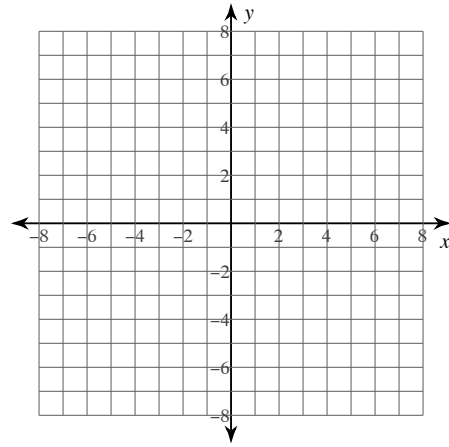
2) $y = x^2 + 6x + 5$



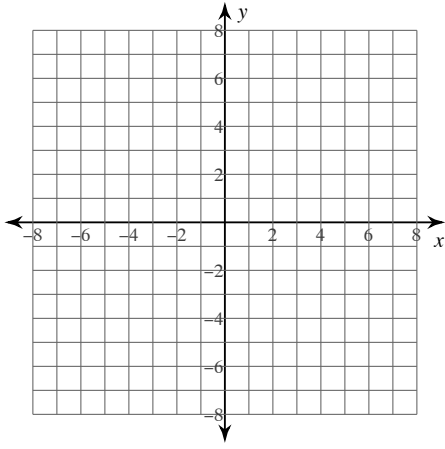
$$3) y = \frac{1}{4}x^2 - \frac{1}{2}x + \frac{25}{4}$$



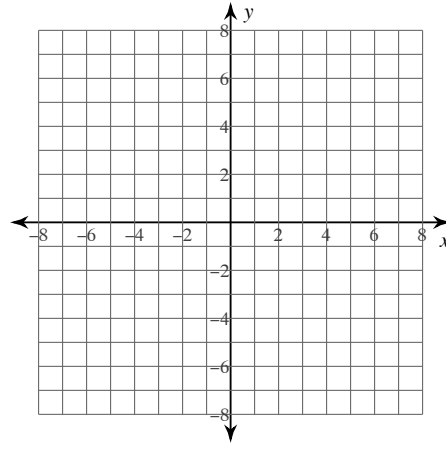
$$4) y = \frac{1}{4}x^2 + \frac{5}{2}x + \frac{45}{4}$$



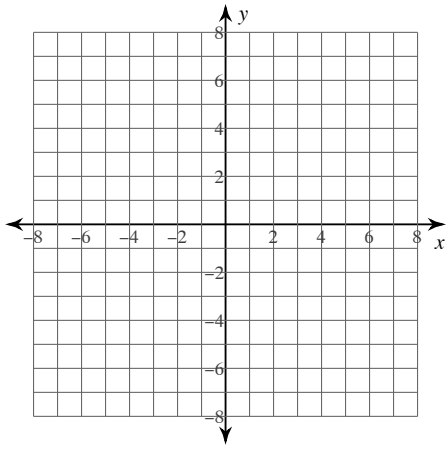
5) $y = 2(x + 4)^2 - 1$



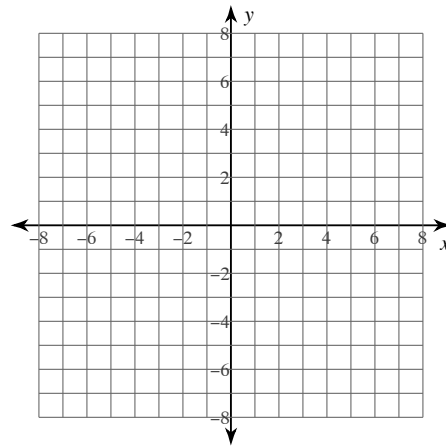
6) $y = -2(x + 6)^2 - 6$



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

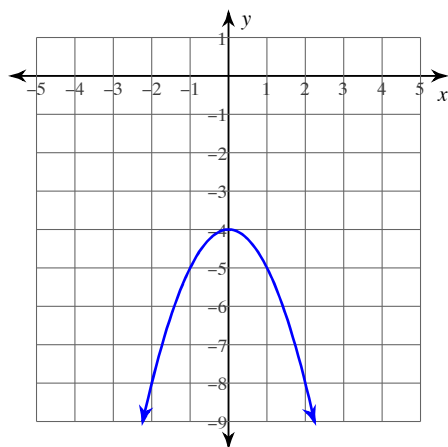


8) $y = \frac{2}{3}(x + 6)^2 - 2$

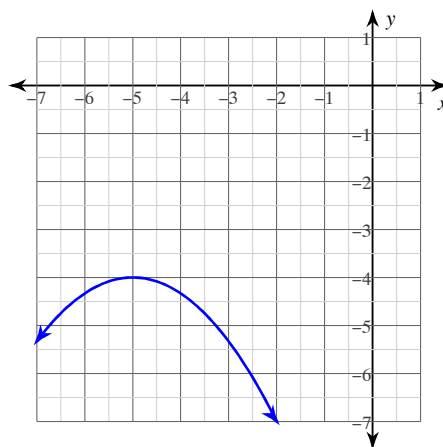


Use the information provided to write the vertex form equation of each parabola.

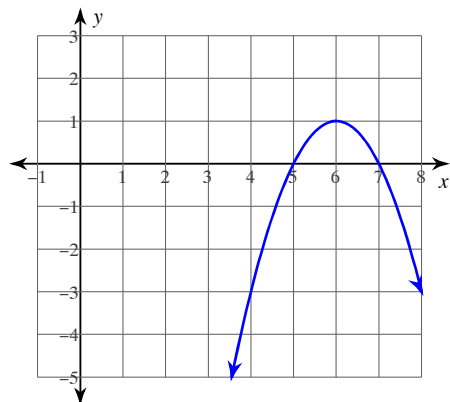
9)



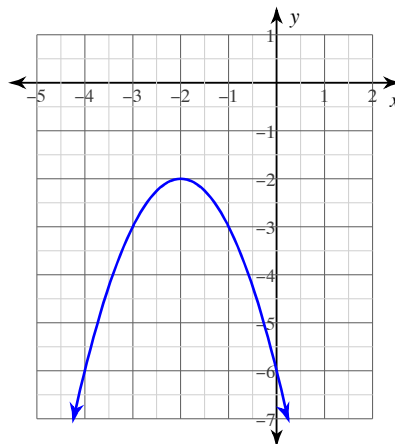
10)



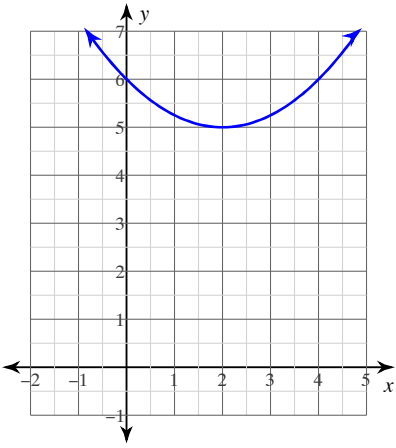
11)



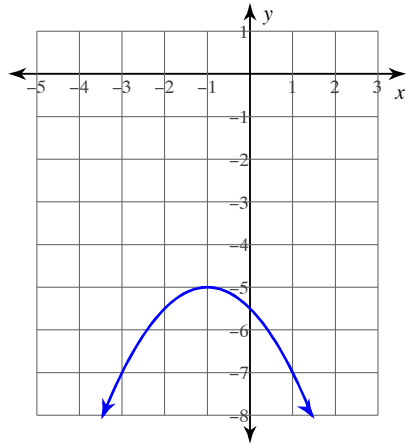
12)



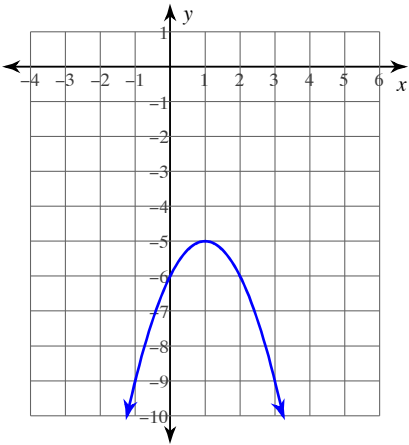
13)



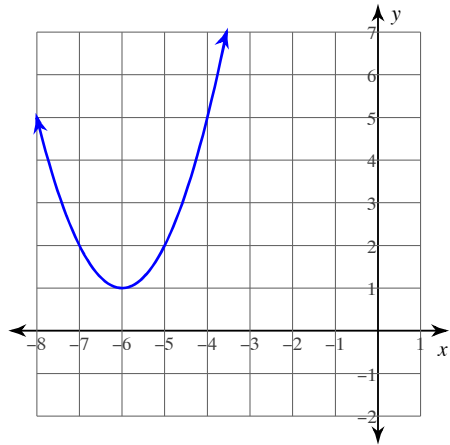
14)



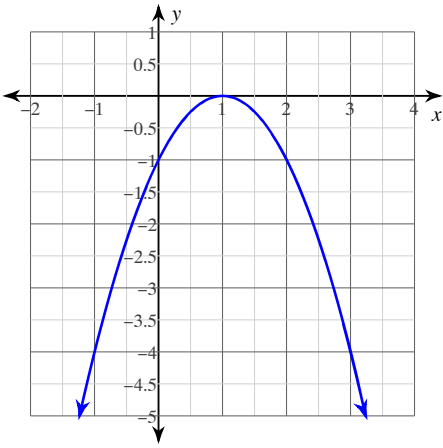
15)



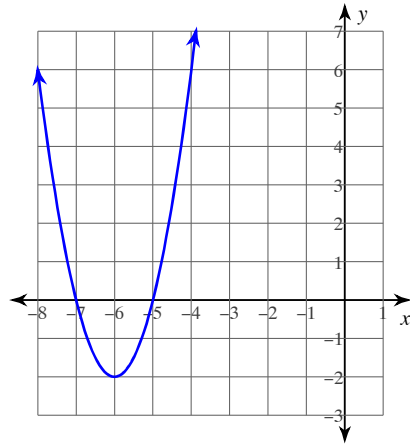
16)



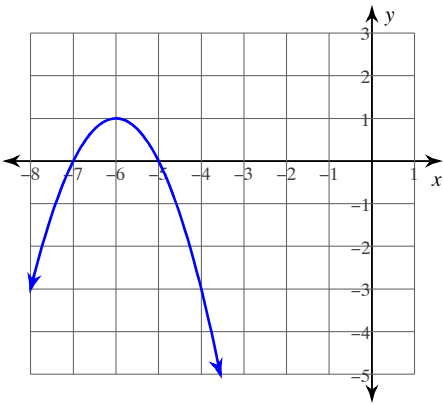
17)



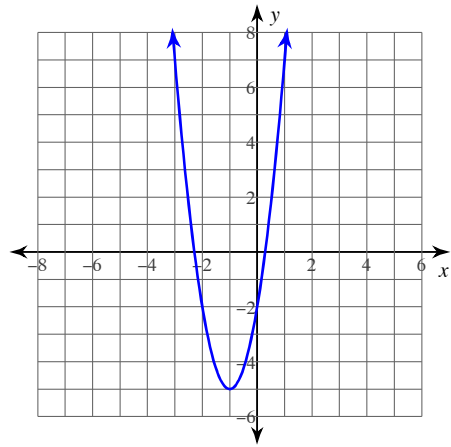
18)



19)



20)



$$21) y = x^2 + 10x + 22$$

$$22) y = \frac{1}{3}x^2 + \frac{2}{3}x + \frac{28}{3}$$

$$23) y = x^2 + 20x + 98$$

$$24) y = -2x^2 - 32x - 128$$

$$25) y = -4x^2 + 16x - 20$$

$$26) y = x^2 - 20x + 96$$

$$27) y = -\frac{1}{14}x^2 - \frac{3}{7}x - \frac{121}{14}$$

$$28) y = -2x^2 + 20x - 56$$

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

$$29) y = 2(x + 4)^2 + 9$$

$$30) y = -7(x - 5)^2 + 8$$

$$31) y = 3(x - 10)^2 + 3$$

$$32) y = -3(x + 7)^2 - 9$$

$$33) y = -(x + 1)^2 - 2$$

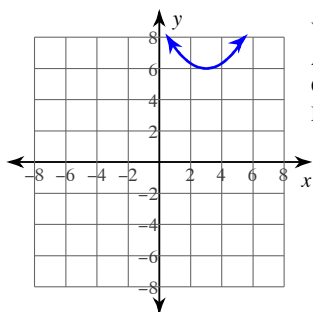
$$34) y = -15(x - 8)^2 + 2$$

$$35) y = (x - 6)^2 + 5$$

$$36) y = \frac{1}{4}(x - 8)^2 + 7$$

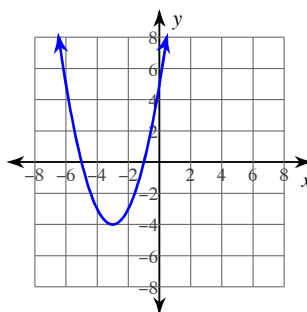
Answers to Assignment (ID: 1)

1)



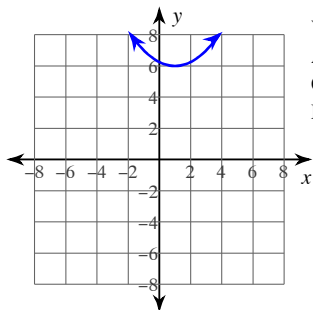
Vertex: (3, 6)
Axis of Sym.: $x = 3$
Opens: Up
Min value = 6

2)



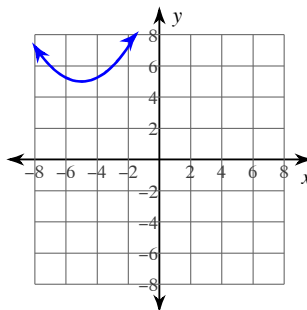
Vertex: (-3, -4)
Axis of Sym.: $x = -3$
Opens: Up
Min value = -4

3)



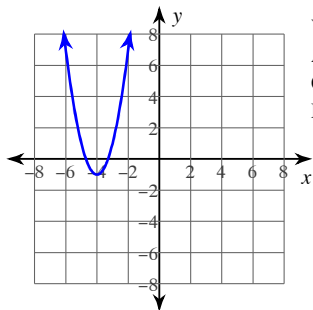
Vertex: (1, 6)
Axis of Sym.: $x = 1$
Opens: Up
Min value = 6

4)



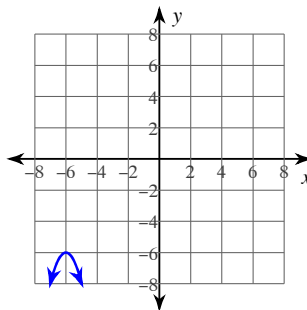
Vertex: (-5, 5)
Axis of Sym.: $x = -5$
Opens: Up
Min value = 5

5)



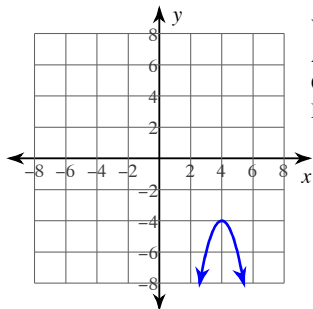
Vertex: (-4, -1)
Axis of Sym.: $x = -4$
Opens: Up
Min value = -1

6)



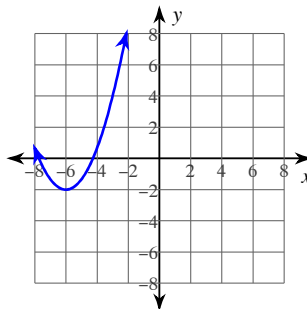
Vertex: (-6, -6)
Axis of Sym.: $x = -6$
Opens: Down
Max value = -6

7)



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

8)



Vertex: (-6, -2)
Axis of Sym.: $x = -6$
Opens: Up
Min value = -2

9) $y = -x^2 - 4$

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

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

12) $y = -(x + 2)^2 - 2$

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

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

15) $y = -(x - 1)^2 - 5$

16) $y = (x + 6)^2 + 1$

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

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

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

20) $y = 3(x + 1)^2 - 5$

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

22) $y = \frac{1}{3}(x + 1)^2 + 9$

23) $y = (x + 10)^2 - 2$

24) $y = -2(x + 8)^2$

25) $y = -4(x - 2)^2 - 4$

26) $y = (x - 10)^2 - 4$

27) $y = -\frac{1}{14}(x + 3)^2 - 8$

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

29) $y = 2x^2 + 16x + 41$

30) $y = -7x^2 + 70x - 167$

31) $y = 3x^2 - 60x + 303$

32) $y = -3x^2 - 42x - 156$

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

34) $y = -15x^2 + 240x - 958$

35) $y = x^2 - 12x + 41$

$$36) y = \frac{1}{4}x^2 - 4x + 23$$