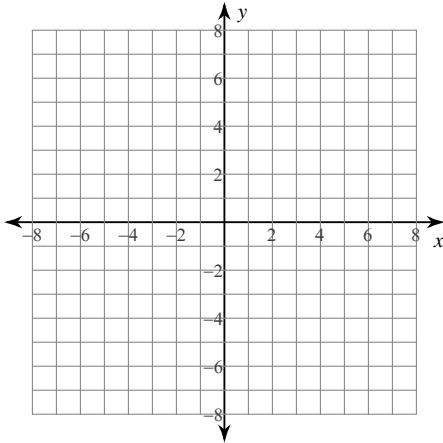


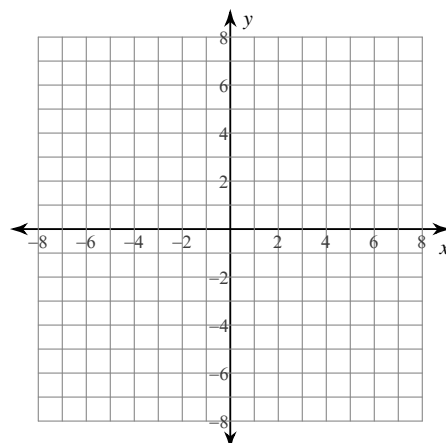
Quadratics in Factored and General Form

Identify the vertex, axis of symmetry, min/max value, y-intercept, and x-intercepts of each. Then sketch the graph.

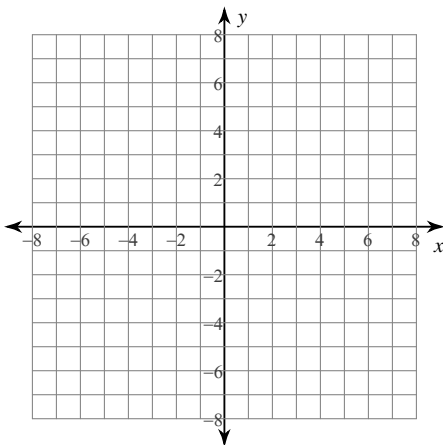
1) $y = (x - 3)(x - 7)$



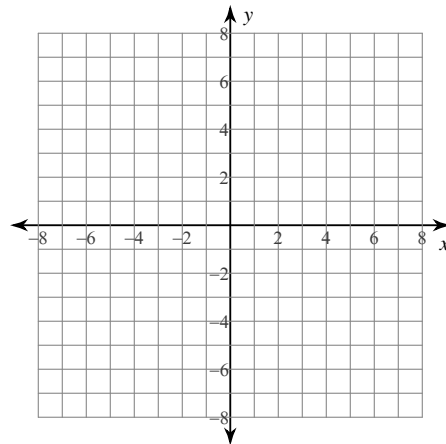
2) $y = -(x - 4)(x - 5)$



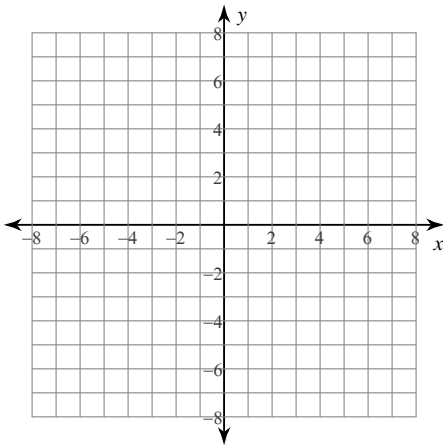
3) $y = (x + 2)(x + 5)$



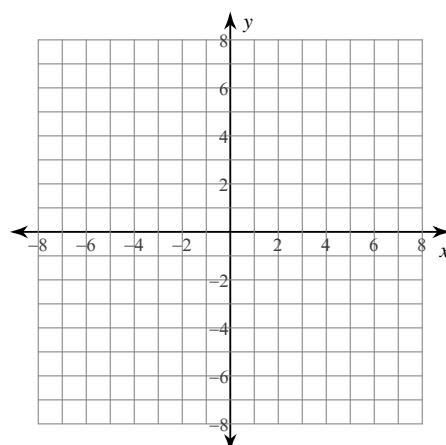
4) $y = -\frac{1}{4}x(x - 1)$



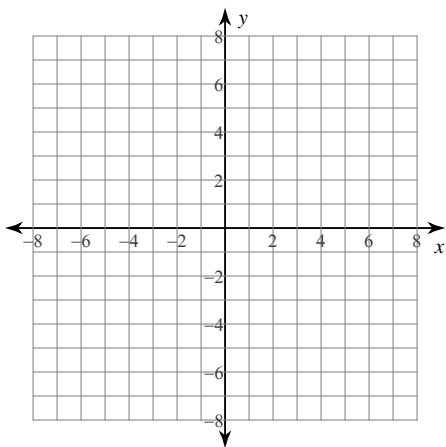
5) $y = -(x + 3)(x + 7)$



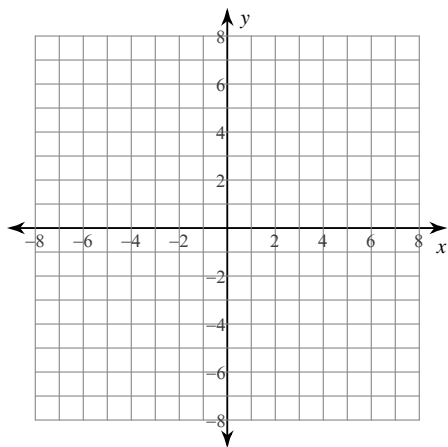
6) $y = -(x - 2)(x - 5)$



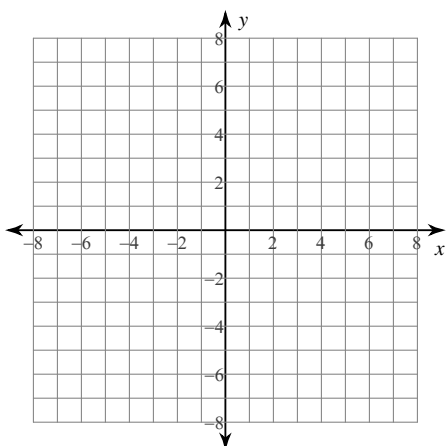
$$7) y = -\frac{1}{3}x(x-5)$$



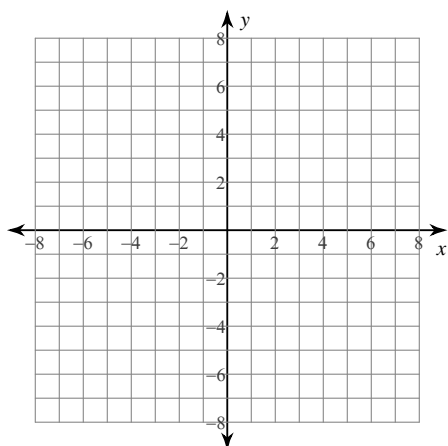
$$8) y = -\frac{1}{4}(x+1)(x+6)$$



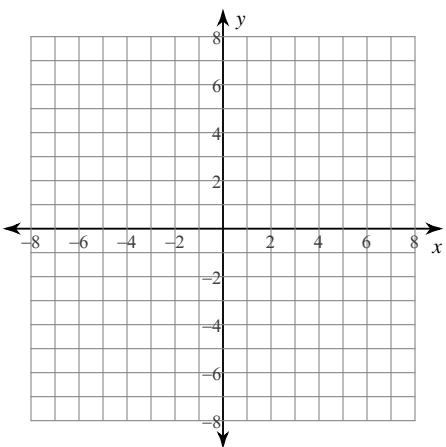
$$9) y = \frac{1}{3}(x+4)(x+6)$$



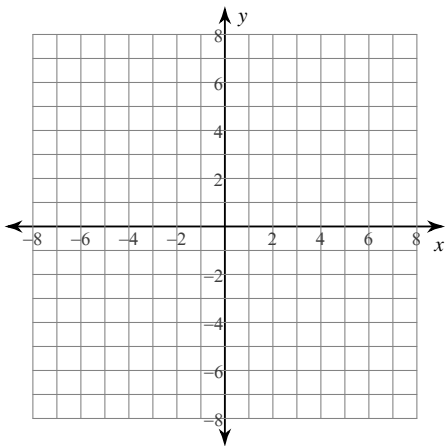
$$10) y = -\frac{3}{7}(x+3)(x-4)$$



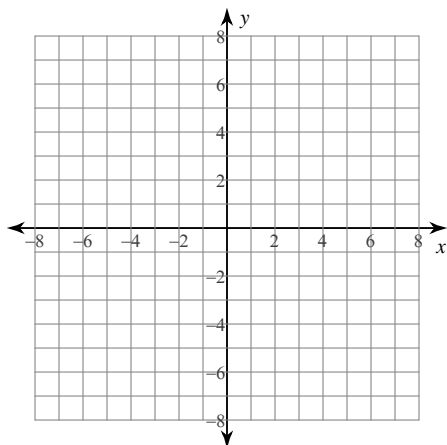
$$11) y = x^2 + 5x + 4$$



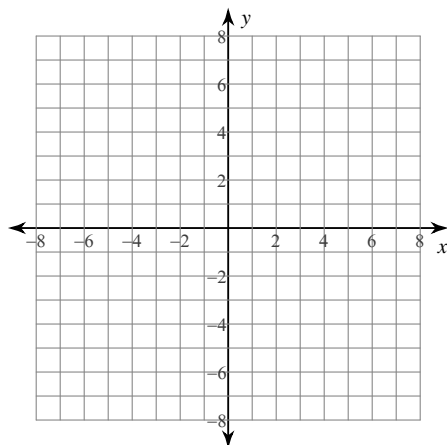
$$12) y = -\frac{1}{2}x^2 + 4x - 9$$



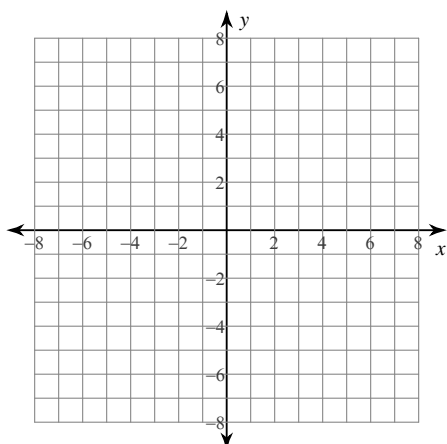
$$13) y = \frac{1}{3}x^2 - x - \frac{4}{3}$$



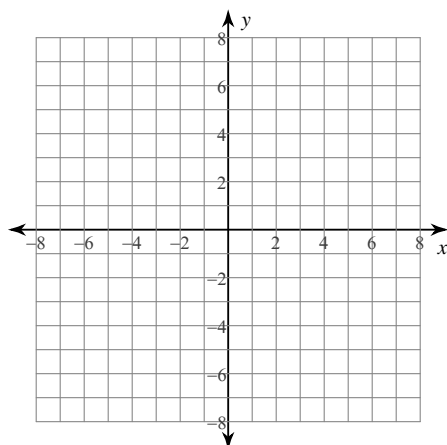
$$14) y = \frac{1}{2}x^2 + \frac{1}{2}x - 3$$



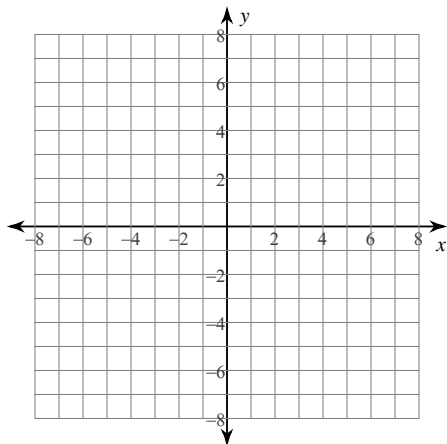
$$15) y = -\frac{1}{4}x^2 - \frac{1}{2}x + 2$$



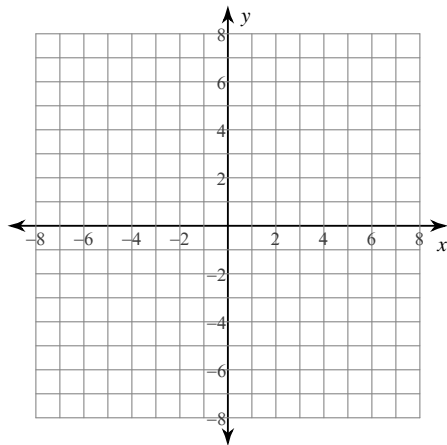
$$16) y = x^2 - 3x + 2$$



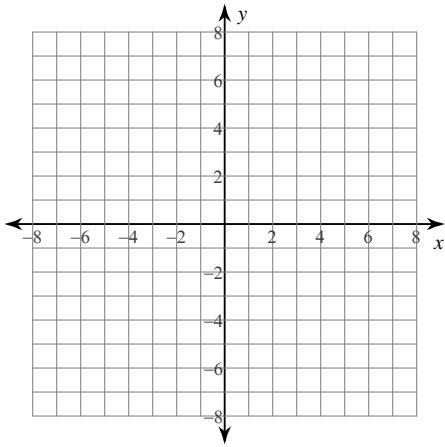
$$17) y = \frac{1}{3}x^2 + 4x + 15$$



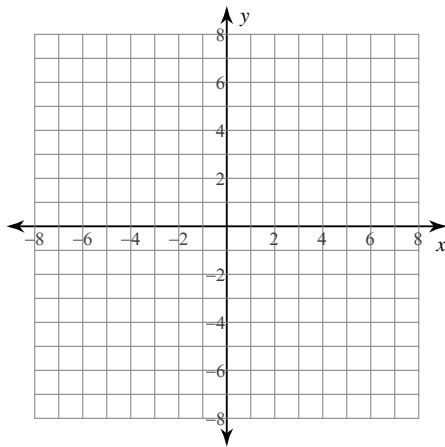
$$18) y = -x^2 - 6x - 8$$



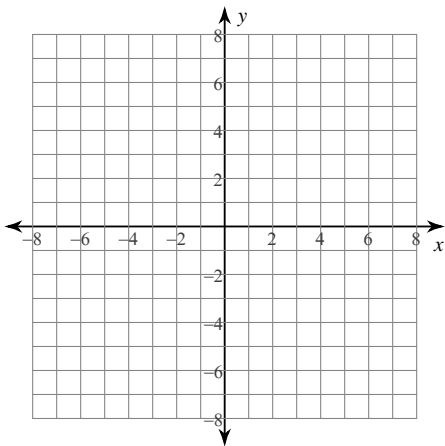
$$19) y = -\frac{2}{3}x^2 - 4x - \frac{16}{3}$$



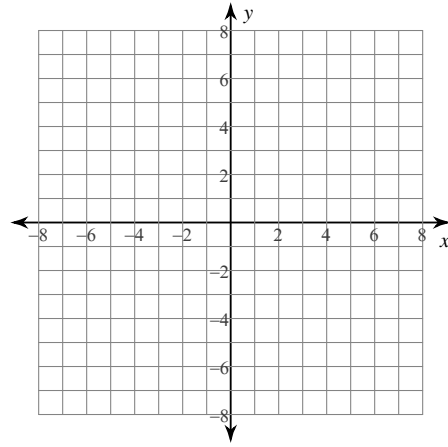
$$21) y = -\frac{1}{4}x^2 + 4$$



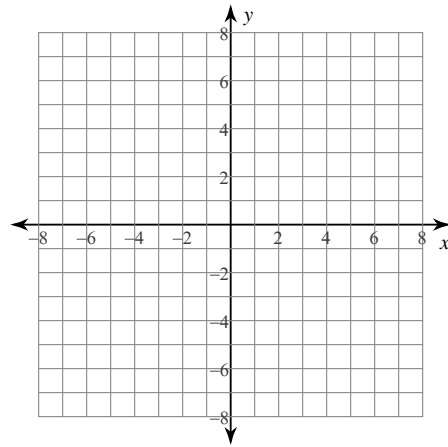
$$23) y = -\frac{1}{3}x^2 + \frac{1}{3}x + \frac{2}{3}$$



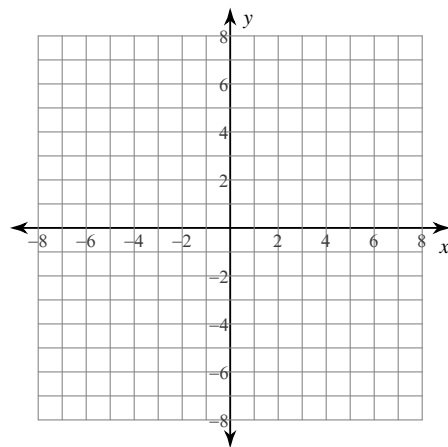
$$20) y = x^2 - x$$



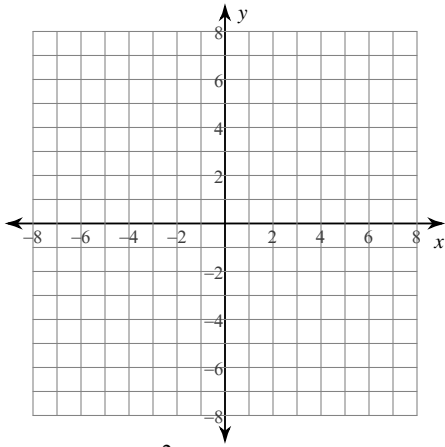
$$22) y = x^2 + 4x$$



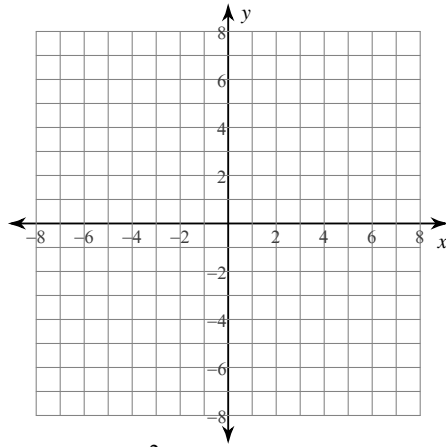
$$24) y = x^2 + 6x + 12$$



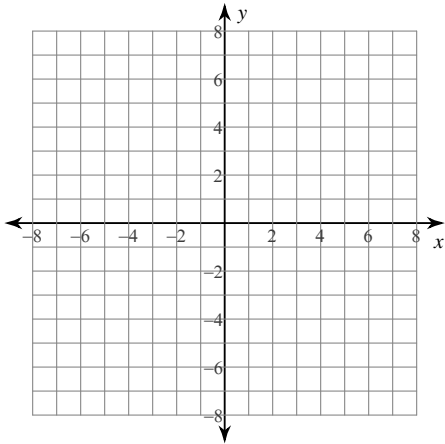
25) $y = -x^2 - 2x$



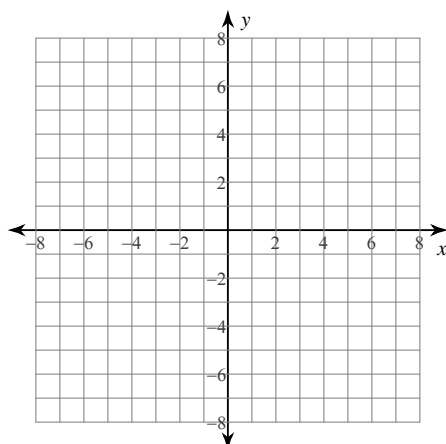
26) $y = x^2 - 6x + 13$



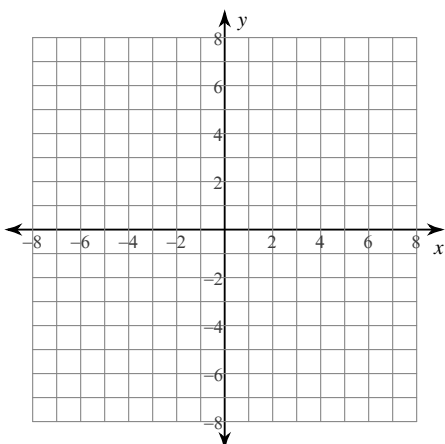
27) $y = -2x^2 - 20x - 51$



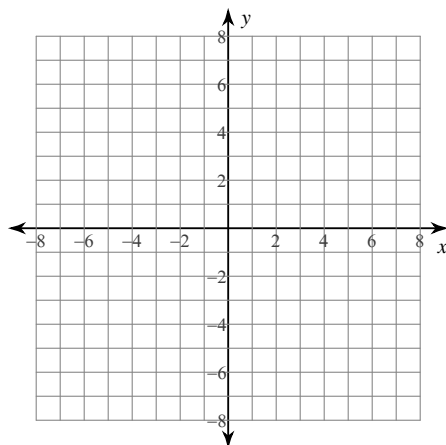
28) $y = -x^2 + x + 2$



29) $y = -x^2 + 9x - 18$

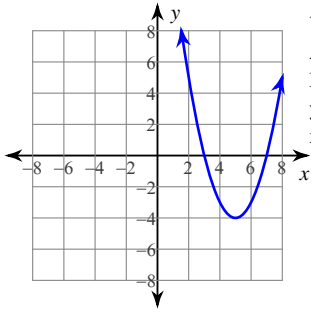


30) $y = \frac{1}{2}x^2 - x + \frac{7}{2}$



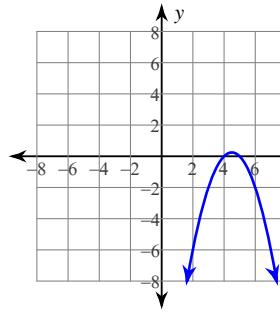
Answers to Quadratics in Factored and General Form

1)



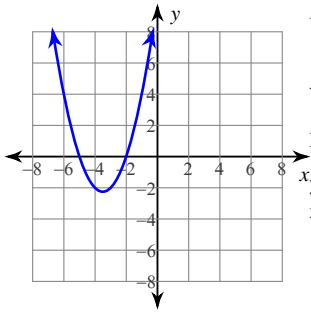
Vertex: $(5, -4)$
 Axis of Sym.: $x = 5$
 Min value = -4
 y-int: 21
 x-int: 3 and 7

2)



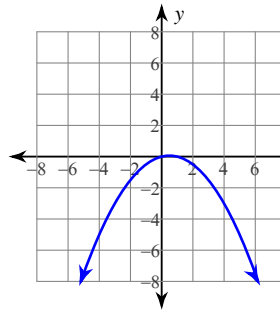
Vertex: $(\frac{9}{2}, \frac{1}{4})$
 Axis of Sym.: $x = \frac{9}{2}$
 Max value = $\frac{1}{4}$
 y-int: -20
 x-int: 4 and 5

3)



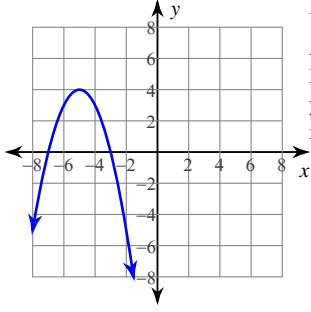
Vertex: $(-\frac{7}{2}, -\frac{9}{4})$
 Axis of Sym.: $x = -\frac{7}{2}$
 Min value = $-\frac{9}{4}$
 y-int: 10
 x-int: -2 and -5

4)



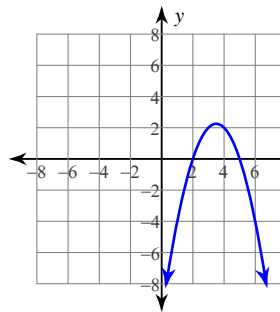
Vertex: $(\frac{1}{2}, \frac{1}{16})$
 Axis of Sym.: $x = \frac{1}{2}$
 Max value = $\frac{1}{16}$
 y-int: 0
 x-int: 0 and 1

5)



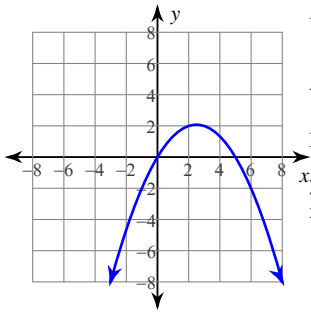
Vertex: $(-5, 4)$
 Axis of Sym.: $x = -5$
 Max value = 4
 y-int: -21
 x-int: -3 and -7

6)



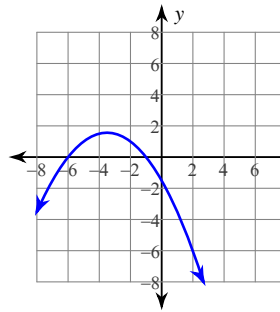
Vertex: $(\frac{7}{2}, \frac{9}{4})$
 Axis of Sym.: $x = \frac{7}{2}$
 Max value = $\frac{9}{4}$
 y-int: -10
 x-int: 2 and 5

7)



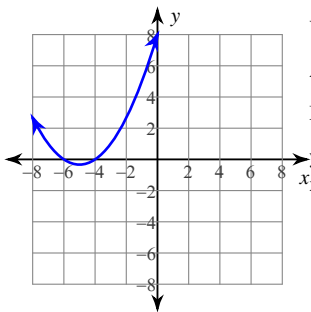
Vertex: $(\frac{5}{2}, \frac{25}{12})$
 Axis of Sym.: $x = \frac{5}{2}$
 Max value = $\frac{25}{12}$
 y-int: 0
 x-int: 0 and 5

8)



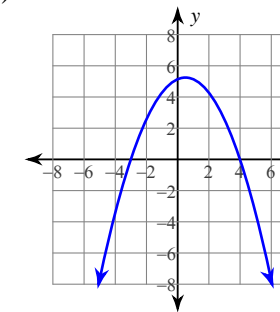
Vertex: $(-\frac{7}{2}, \frac{25}{16})$
 Axis of Sym.: $x = -\frac{7}{2}$
 Max value = $\frac{25}{16}$
 y-int: $-\frac{3}{2}$
 x-int: -1 and -6

9)



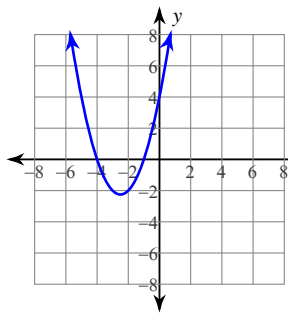
Vertex: $(-5, -\frac{1}{3})$
 Axis of Sym.: $x = -5$
 Min value = $-\frac{1}{3}$
 y-int: 8
 x-int: -6 and -4

10)



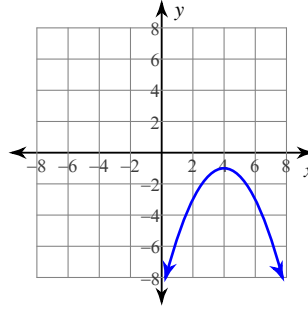
Vertex: $(\frac{1}{2}, \frac{21}{4})$
 Axis of Sym.: $x = \frac{1}{2}$
 Max value = $\frac{21}{4}$
 y-int: $\frac{36}{7}$
 x-int: 4 and -3

11)



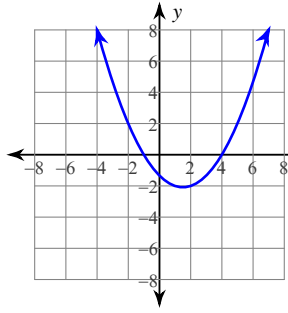
Vertex: $\left(-\frac{5}{2}, -\frac{9}{4}\right)$
 Axis of Sym.: $x = -\frac{5}{2}$
 Min value = $-\frac{9}{4}$
 y -int: 4
 x -int: -1 and -4

12)



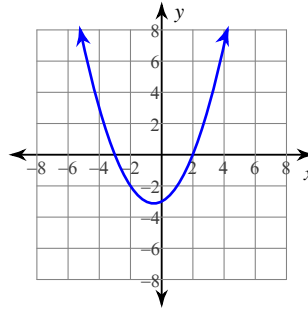
Vertex: $(4, -1)$
 Axis of Sym.: $x = 4$
 Max value = -1
 y -int: -9
 x -int: None

13)



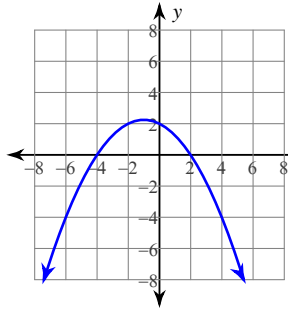
Vertex: $\left(\frac{3}{2}, -\frac{25}{12}\right)$
 Axis of Sym.: $x = \frac{3}{2}$
 Min value = $-\frac{25}{12}$
 y -int: $-\frac{4}{3}$
 x -int: -1 and 4

14)



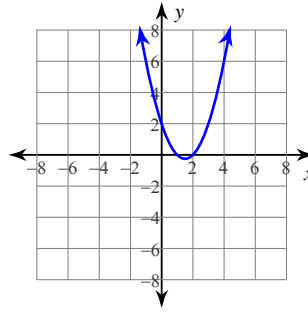
Vertex: $\left(-\frac{1}{2}, -\frac{25}{8}\right)$
 Axis of Sym.: $x = -\frac{1}{2}$
 Min value = $-\frac{25}{8}$
 y -int: -3
 x -int: -3 and 2

15)



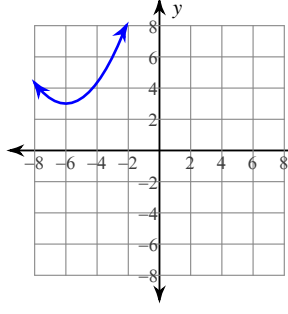
Vertex: $\left(-1, \frac{9}{4}\right)$
 Axis of Sym.: $x = -1$
 Max value = $\frac{9}{4}$
 y -int: 2
 x -int: -4 and 2

16)



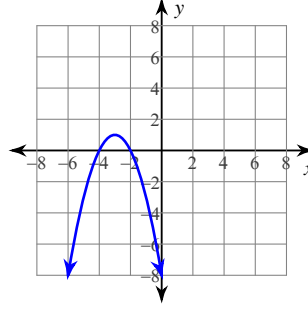
Vertex: $\left(\frac{3}{2}, -\frac{1}{4}\right)$
 Axis of Sym.: $x = \frac{3}{2}$
 Min value = $-\frac{1}{4}$
 y -int: 2
 x -int: 1 and 2

17)



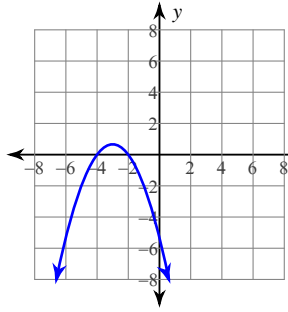
Vertex: $(-6, 3)$
 Axis of Sym.: $x = -6$
 Min value = 3
 y -int: 15
 x -int: None

18)



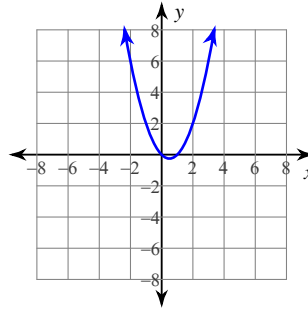
Vertex: $(-3, 1)$
 Axis of Sym.: $x = -3$
 Max value = 1
 y -int: -8
 x -int: -2 and -4

19)



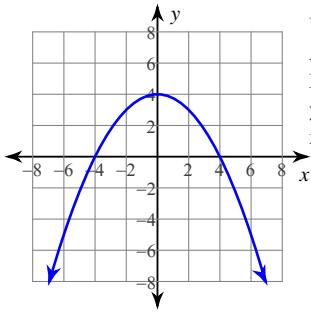
Vertex: $\left(-3, \frac{2}{3}\right)$
 Axis of Sym.: $x = -3$
 Max value = $\frac{2}{3}$
 y -int: $-\frac{16}{3}$
 x -int: -2 and -4

20)



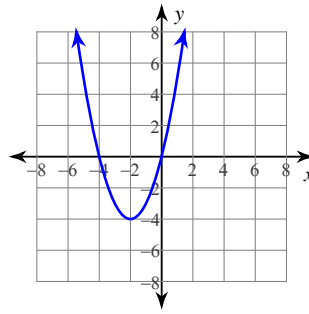
Vertex: $\left(\frac{1}{2}, -\frac{1}{4}\right)$
 Axis of Sym.: $x = \frac{1}{2}$
 Min value = $-\frac{1}{4}$
 y -int: 0
 x -int: 0 and 1

21)



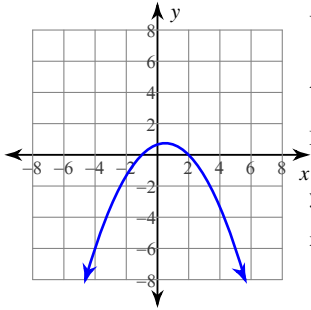
Vertex: $(0, 4)$
 Axis of Sym.: $x = 0$
 Max value = 4
 y-int: 4
 x-int: -4 and 4

22)



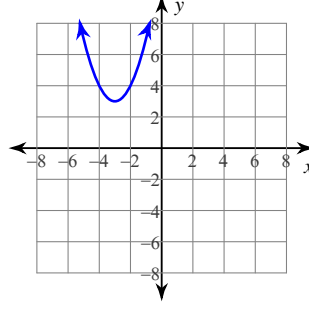
Vertex: $(-2, -4)$
 Axis of Sym.: $x = -2$
 Min value = -4
 y-int: 0
 x-int: 0 and -4

23)



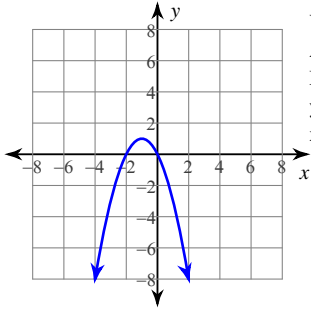
Vertex: $(\frac{1}{2}, \frac{3}{4})$
 Axis of Sym.: $x = \frac{1}{2}$
 Max value = $\frac{3}{4}$
 y-int: $\frac{2}{3}$
 x-int: 2 and -1

24)



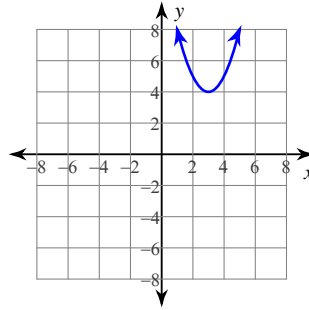
Vertex: $(-3, 3)$
 Axis of Sym.: $x = -3$
 Min value = 3
 y-int: None
 x-int: None

25)



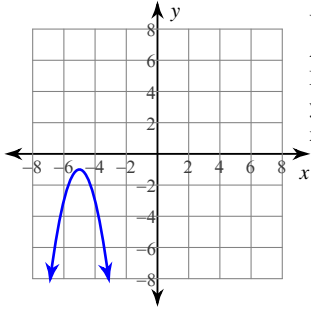
Vertex: $(-1, 1)$
 Axis of Sym.: $x = -1$
 Max value = 1
 y-int: 0
 x-int: 0 and -2

26)



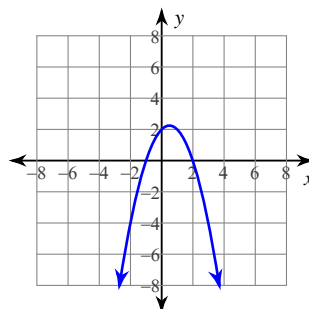
Vertex: $(3, 4)$
 Axis of Sym.: $x = 3$
 Min value = 4
 y-int: None
 x-int: None

27)



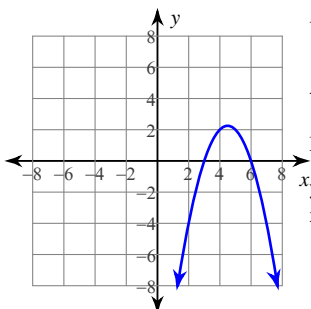
Vertex: $(-5, -1)$
 Axis of Sym.: $x = -5$
 Max value = -1
 y-int: None
 x-int: None

28)



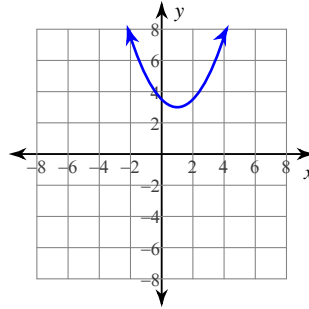
Vertex: $(\frac{1}{2}, \frac{9}{4})$
 Axis of Sym.: $x = \frac{1}{2}$
 Max value = $\frac{9}{4}$
 y-int: 2
 x-int: 2 and -1

29)



Vertex: $(\frac{9}{2}, \frac{9}{4})$
 Axis of Sym.: $x = \frac{9}{2}$
 Max value = $\frac{9}{4}$
 y-int: -18
 x-int: 3 and 6

30)



Vertex: $(1, 3)$
 Axis of Sym.: $x = 1$
 Min value = 3
 y-int: $\frac{7}{2}$
 x-int: None