

Assignment: Quadratics

Date _____

Identify the vertex, axis of symmetry, min/max value, and x-intercepts of each.

1) $y = -x^2 + 2x + 35$

2) $y = 2x^2 - 36x + 163$

3) $y = -2x^2 + 22x - 36$

4) $y = -12x^2 + 36x + 480$

5) $y = 7\left(x + \frac{5}{2}\right)^2 - \frac{7}{4}$

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

7) $y = -\frac{1}{11}(x - 6)^2 + \frac{9}{11}$

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

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

10) $y = -(x - 3)(x + 10)$

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

12) $y = 4(x - 9)(x + 4)$

Answers to Assignment: Quadratics

1) Vertex: $(1, 36)$
Axis of Sym.: $x = 1$
Max value = 36
x-int: 7 and -5

2) Vertex: $(9, 1)$
Axis of Sym.: $x = 9$
Min value = 1
x-int: None

3) Vertex: $\left(\frac{11}{2}, \frac{49}{2}\right)$
Axis of Sym.: $x = \frac{11}{2}$

Max value = $\frac{49}{2}$

x-int: 9 and 2

4) Vertex: $\left(\frac{3}{2}, 507\right)$
Axis of Sym.: $x = \frac{3}{2}$
Max value = 507
x-int: 8 and -5

5) Vertex: $\left(-\frac{5}{2}, -\frac{7}{4}\right)$
Axis of Sym.: $x = -\frac{5}{2}$
Min value = $-\frac{7}{4}$

x-int: -3 and -2

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

7) Vertex: $\left(6, \frac{9}{11}\right)$
Axis of Sym.: $x = 6$
Max value = $\frac{9}{11}$
x-int: 9 and 3

8) Vertex: $(1, -3)$
Axis of Sym.: $x = 1$
Min value = -3
x-int: 0 and 2

9) Vertex: $(-4, -1)$
Axis of Sym.: $x = -4$
Min value = -1
x-int: -5 and -3

10) Vertex: $\left(-\frac{7}{2}, \frac{169}{4}\right)$
Axis of Sym.: $x = -\frac{7}{2}$
Max value = $\frac{169}{4}$
x-int: 3 and -10

11) Vertex: $(-3, 0)$
Axis of Sym.: $x = -3$
Min value = 0
x-int: -3

12) Vertex: $\left(\frac{5}{2}, -169\right)$
Axis of Sym.: $x = \frac{5}{2}$
Min value = -169
x-int: 9 and -4