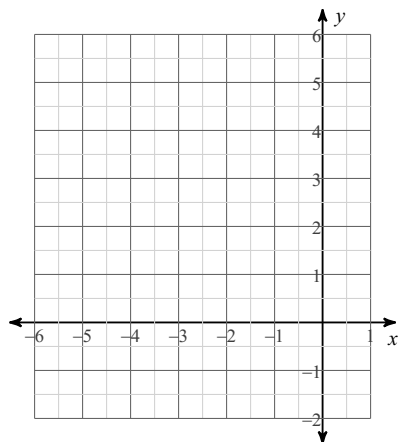


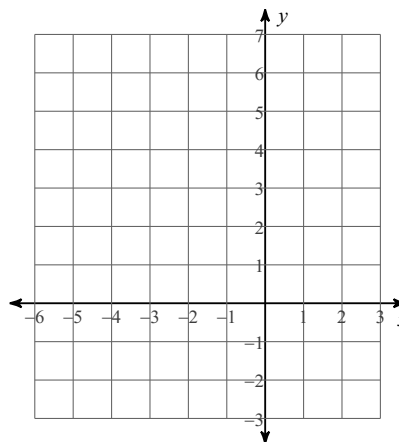
Review Unit 3 Cummulative

Sketch the graph of each function.

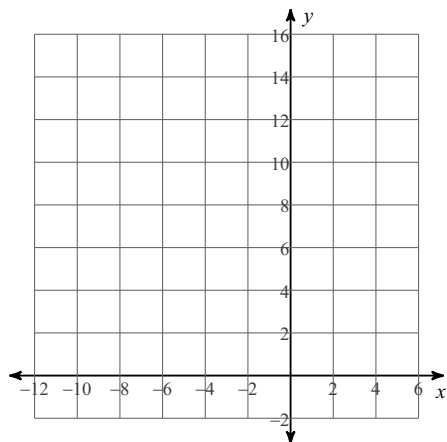
1) $y = -x^2 - 8x - 12$



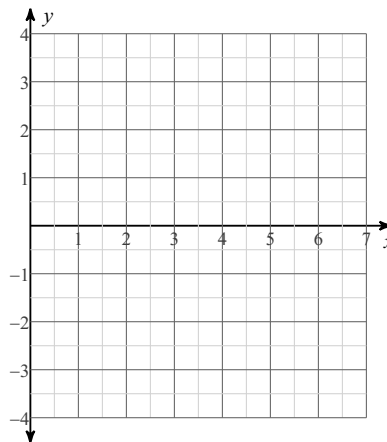
2) $y = 2x^2 + 16x + 30$



3) $y = 4(x + 3)^2 - 1$

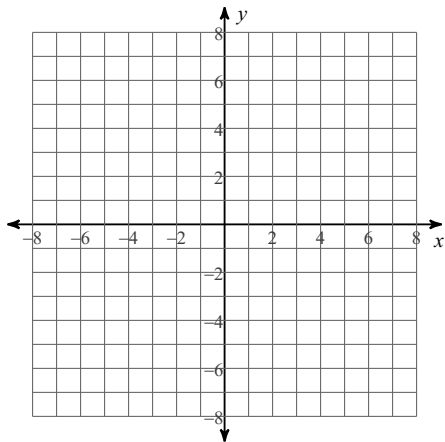


4) $y = -(x - 4)^2 + 2$

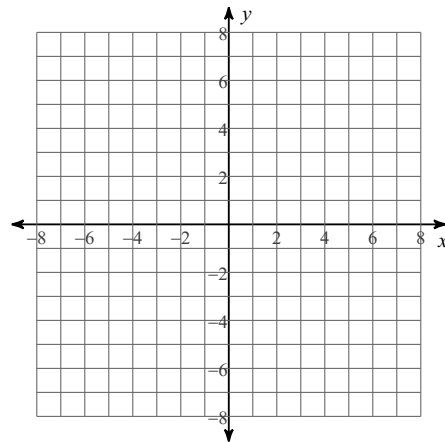


Identify the vertex and axis of symmetry of each. Then sketch the graph.

5) $y = -x^2 - 4x - 8$



6) $y = 2x^2 - 24x + 72$



Identify the vertex and axis of symmetry of each.

7) $y = -2(x - 1)^2 + 10$

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

8) $y = 7x^2 + 14x + 2$

Factor each completely.

9) $p^2 + 4p - 21$

10) $x^2 + 10x$

11) $5x^2 + 19x - 4$

12) $28x^2 + 12x$

13) $10b^2 - 13b - 3$

14) $b^2 - 1$

Solve each equation by taking square roots.

15) $n^2 = 48$

16) $25k^2 - 1 = 15$

Solve each equation by factoring.

17) $r^2 - 9r + 14 = 0$

18) $k^2 - 4k - 19 = -7$

Solve each equation with the quadratic formula.

19) $8x^2 + 6x - 12 = 0$

20) $12m^2 + 3m - 10 = 0$

21) A kicker kicks a football during practice. The equation below can be used to find the height (h) in feet of the football after t seconds.

$$h(t) = -16t^2 + 96t$$

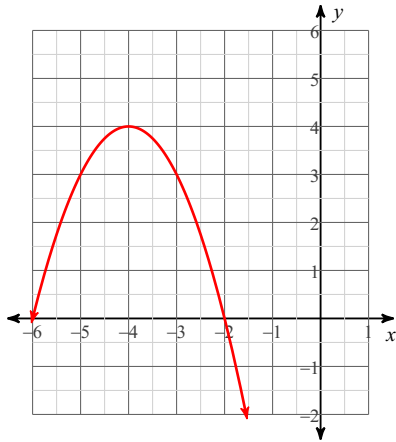
After how many seconds will the ball hit the ground?

Review Unit 3 Cummulative

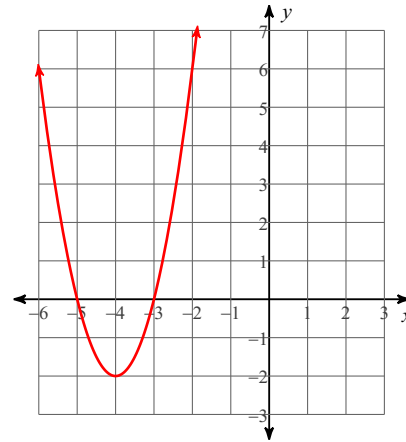
Date _____ Period _____

Sketch the graph of each function.

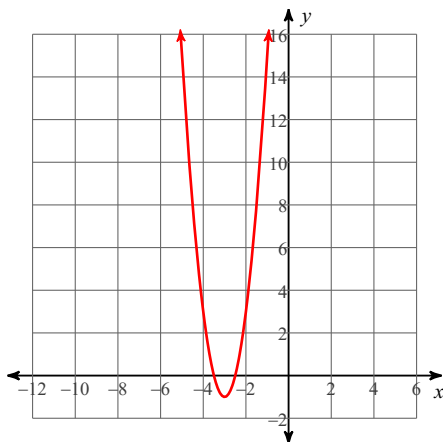
1) $y = -x^2 - 8x - 12$



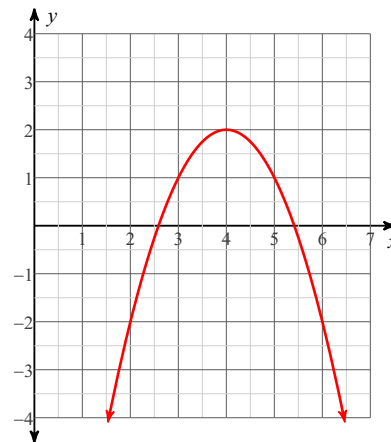
2) $y = 2x^2 + 16x + 30$



3) $y = 4(x + 3)^2 - 1$

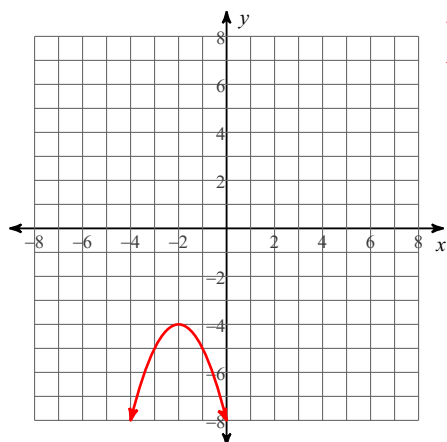


4) $y = -(x - 4)^2 + 2$



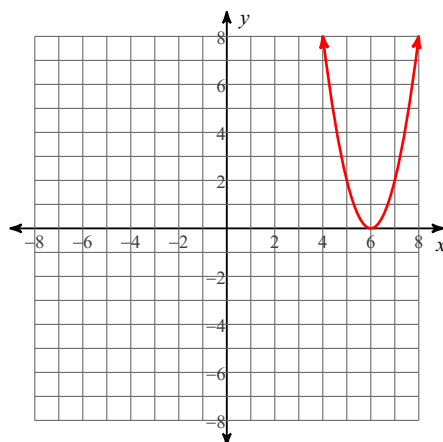
Identify the vertex and axis of symmetry of each. Then sketch the graph.

5) $y = -x^2 - 4x - 8$



Vertex: $(-2, -4)$
Axis of Sym.: $x = -2$

6) $y = 2x^2 - 24x + 72$



Vertex: $(6, 0)$
Axis of Sym.: $x = 6$

Identify the vertex and axis of symmetry of each.

7) $y = -2(x - 1)^2 + 10$

Vertex: $(1, 10)$
Axis of Sym.: $x = 1$

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

8) $y = 7x^2 + 14x + 2$

$y = 7(x + 1)^2 - 5$

Factor each completely.

9) $p^2 + 4p - 21$

$(p - 3)(p + 7)$

10) $x^2 + 10x$

$x(x + 10)$

$$11) 5x^2 + 19x - 4$$

$$(5x - 1)(x + 4)$$

$$12) 28x^2 + 12x$$

$$4x(7x + 3)$$

$$13) 10b^2 - 13b - 3$$

$$(5b + 1)(2b - 3)$$

$$14) b^2 - 1$$

$$(b + 1)(b - 1)$$

Solve each equation by taking square roots.

$$15) n^2 = 48$$

$$\{4\sqrt{3}, -4\sqrt{3}\}$$

$$16) 25k^2 - 1 = 15$$

$$\left\{\frac{4}{5}, -\frac{4}{5}\right\}$$

Solve each equation by factoring.

$$17) r^2 - 9r + 14 = 0$$

$$\{2, 7\}$$

$$18) k^2 - 4k - 19 = -7$$

$$\{-2, 6\}$$

Solve each equation with the quadratic formula.

$$19) 8x^2 + 6x - 12 = 0$$

$$\left\{\frac{-3 + \sqrt{105}}{8}, \frac{-3 - \sqrt{105}}{8}\right\}$$

$$20) 12m^2 + 3m - 10 = 0$$

$$\left\{\frac{-3 + \sqrt{489}}{24}, \frac{-3 - \sqrt{489}}{24}\right\}$$

21) A kicker kicks a football during practice. The equation below can be used to find the height (h) in feet of the football after t seconds.

$$h(t) = -16t^2 + 96t$$

After how many seconds will the ball hit the ground?

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