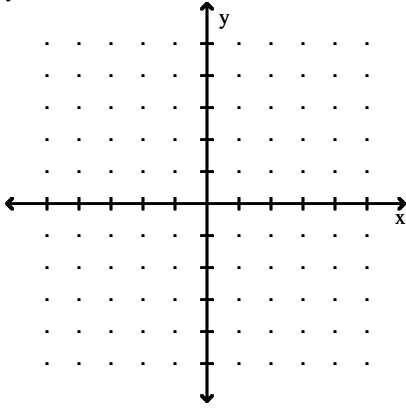


Name _____

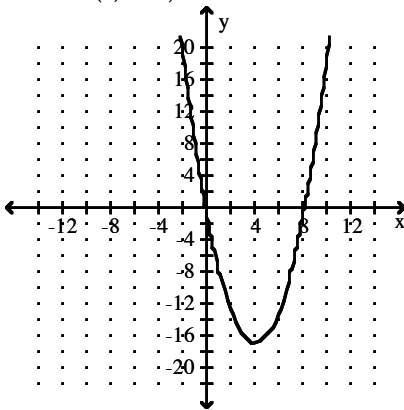
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Give the coordinates of the vertex and graph the equation in a window that includes the vertex.

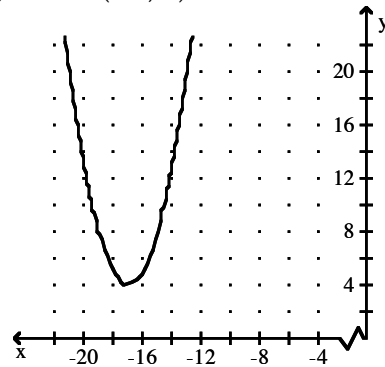
1) $y = (x - 17)^2 + 4$



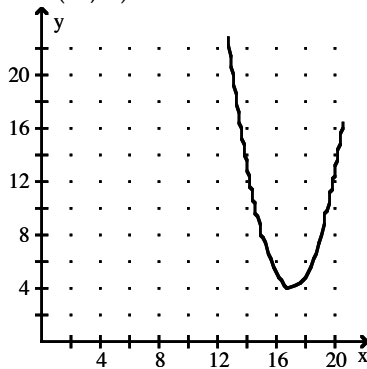
A) Vertex: (4, -17)



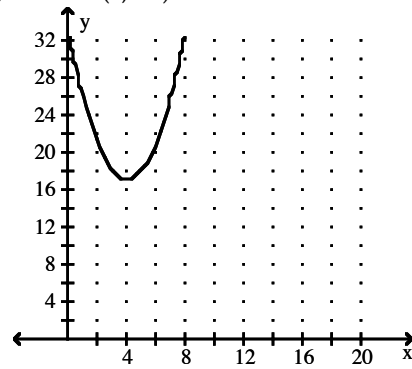
B) Vertex: (-17, 4)



C) Vertex: (17, 4)



D) Vertex: (4, 17)



Answer: C

Objective: (2.1) Find Vertex of Quadratic Function and Graph in Suitable Window

Determine if the vertex of the graph is a maximum point or a minimum point.

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

A) Maximum

B) Minimum

Answer: A

Objective: (2.1) Decide If Vertex of Parabola Is a Minimum or Maximum

Solve the problem.

3) An object is thrown upward with an initial velocity of 10 ft per sec. Its height is given by $h(t) = -10t^2 + 60t$ at time t seconds. After how many seconds does it hit the ground?

A) 9 sec

B) 7 sec

C) 6 sec

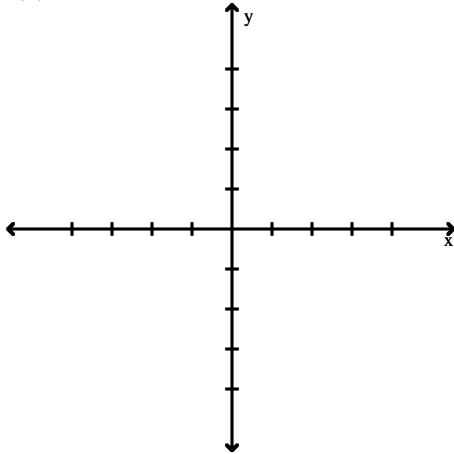
D) 3 sec

Answer: C

Objective: (2.1) Solve Apps: Quadratic Functions; Parabolas

Use the graph of the function to estimate the x-intercepts.

4) $f(x) = -x^2 + 4x + 5$



A) 4, 5

B) -1, 5

C) -5, -1

D) -5, 1

Answer: B

Objective: (2.1) Use Graph of Quadratic Function to Estimate x-Intercepts

Determine if the vertex of the graph is a maximum point or a minimum point.

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

A) Minimum

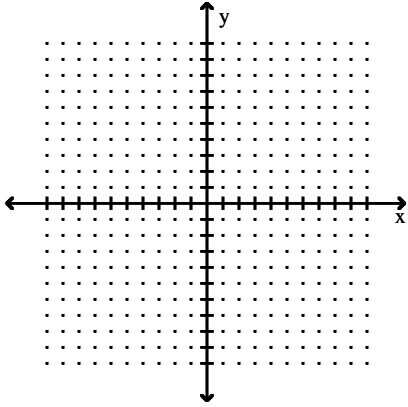
B) Maximum

Answer: B

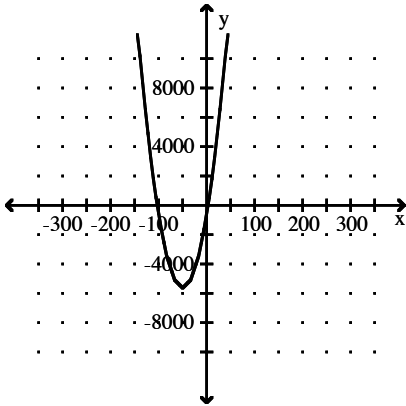
Objective: (2.1) Decide If Vertex of Parabola Is a Minimum or Maximum

Sketch the complete graph of the function.

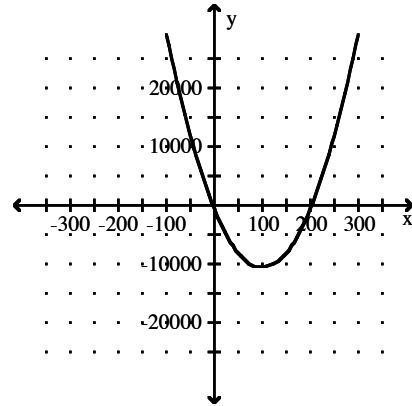
6) $f(x) = x^2 + 200x - 600$



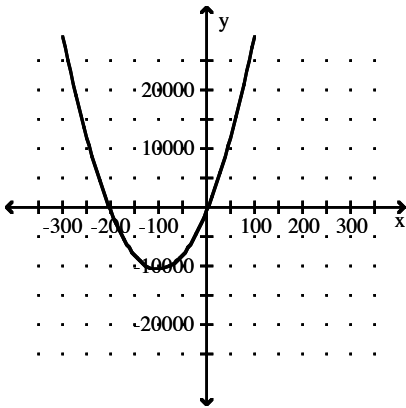
A)



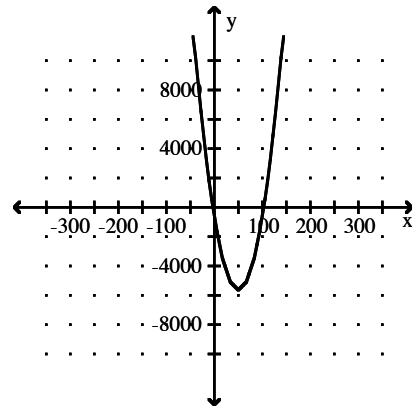
B)



C)



D)

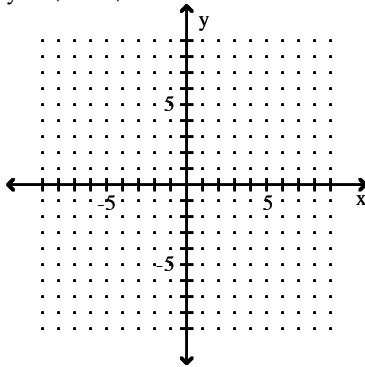


Answer: C

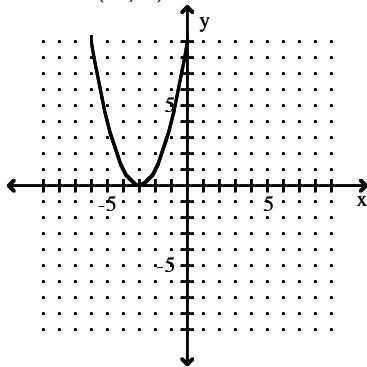
Objective: (2.1) Graph Quadratic Equation in Suitable Window

Give the coordinates of the vertex and graph the equation in a window that includes the vertex.

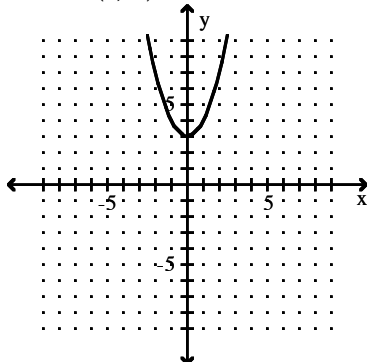
7) $y = (x - 3)^2$



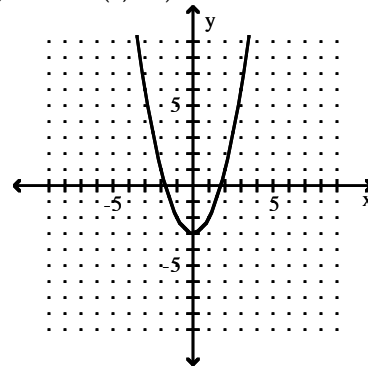
A) Vertex: $(-3, 0)$



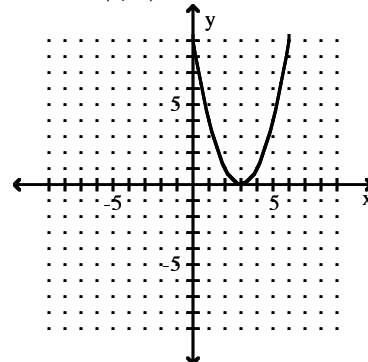
C) Vertex: $(0, 3)$



B) Vertex: $(0, -3)$



D) Vertex: $(3, 0)$



Answer: D

Objective: (2.1) Find Vertex of Quadratic Function and Graph in Suitable Window

Determine if the vertex of the graph is a maximum point or a minimum point.

8) $f(x) = 3x^2 + 2x - 1$

A) Maximum

B) Minimum

Answer: B

Objective: (2.1) Decide If Vertex of Parabola Is a Minimum or Maximum

Determine if the graph of the function is concave up or concave down.

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

A) Concave down

B) Concave up

Answer: A

Objective: (2.1) Decide If Parabola Is Concave Up or Concave Down

Determine if the vertex of the graph is a maximum point or a minimum point.

10) $g(x) = (x - 4)^2 + 4$

A) Maximum

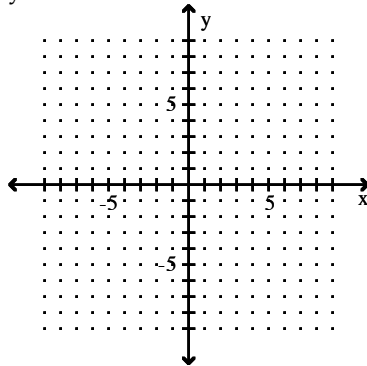
B) Minimum

Answer: B

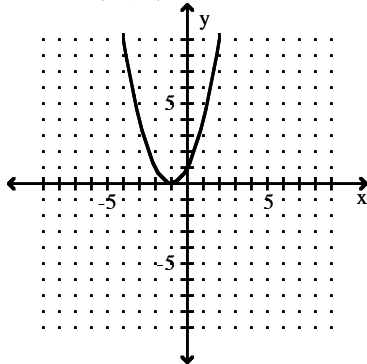
Objective: (2.1) Decide If Vertex of Parabola Is a Minimum or Maximum

Give the coordinates of the vertex and graph the equation in a window that includes the vertex.

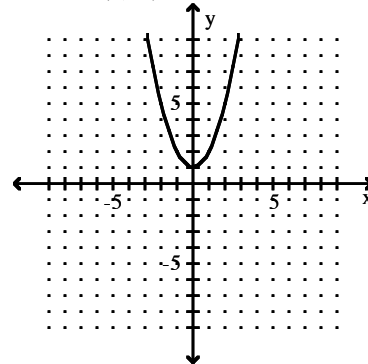
11) $y = x^2 - 1$



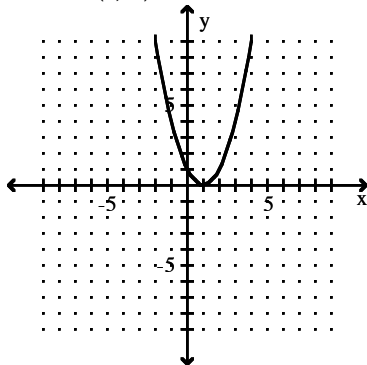
A) Vertex: (-1, 0)



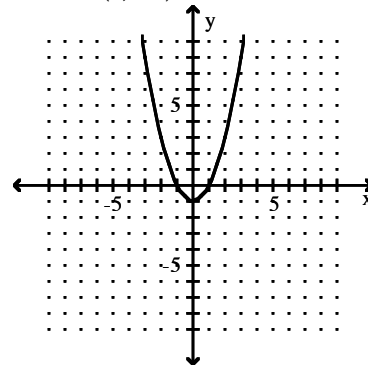
B) Vertex: (0, 1)



C) Vertex: (1, 0)



D) Vertex: (0, -1)



Answer: D

Objective: (2.1) Find Vertex of Quadratic Function and Graph in Suitable Window

Find the exact solutions to the quadratic equation in the complex numbers.

$$12) x^2 - \frac{2}{5}x = -\frac{7}{10}$$

A) $\frac{-2 \pm i\sqrt{66}}{10}$

B) $\frac{2 \pm i\sqrt{66}}{10}$

C) $0, -\frac{7}{4}i$

D) $\frac{2}{5}i, 0$

Answer: B

Objective: (2.2) Solve Quadratic Equation (Exact, Complex Numbers)

Find the x-intercepts.

$$13) y = x^2 - 5$$

A) $(0, \sqrt{5})$ and $(0, -\sqrt{5})$

B) $(0, 5)$

C) $(\sqrt{5}, 0)$ and $(-\sqrt{5}, 0)$

D) $(\sqrt{5}, 0)$

Answer: C

Objective: (2.2) Find x-Intercepts of Quadratic Function

Use the quadratic formula to solve the equation.

$$14) x^2 - x = 72$$

A) -8, 9

B) 1, 72

C) -8, -9

D) 8, 9

Answer: A

Objective: (2.2) Solve Quadratic Equation Using Quadratic Formula

Solve the problem.

15) A ball is thrown downward from a window in a tall building. The distance traveled by the ball in t seconds is $s = 16t^2 + 32t$, where s is in feet. How long (to the nearest tenth) will it take the ball to fall 96 feet?

A) 2.6 sec

B) 1.6 sec

C) 1.4 sec

D) 2.4 sec

Answer: B

Objective: (2.2) Solve Apps: Solving Quadratic Equations

Find the x-intercepts.

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

A) $(0, 0)$ and $(1.5, 0)$

B) $(0, 0)$ and $(-1.5, 0)$

C) $(0, 0)$ and $(0, 1.5)$

D) $(1.5, 0)$

Answer: A

Objective: (2.2) Find x-Intercepts of Quadratic Function

Use factoring to solve the equation.

$$17) 8m^2 - 5m = 0$$

A) $\frac{5}{8}, -\frac{5}{8}$

B) 0

C) $\frac{5}{8}, 0$

D) $-\frac{5}{8}, 0$

Answer: C

Objective: (2.2) Solve Quadratic Equation by Factoring

Find the exact solutions to the quadratic equation in the complex numbers.

$$18) x^2 + x + 2 = 0$$

$$A) \frac{1 \pm \sqrt{7}}{2}$$

$$B) \frac{-1 \pm i\sqrt{7}}{2}$$

$$C) \frac{-1 \pm \sqrt{7}}{2}$$

$$D) \frac{1 \pm i\sqrt{7}}{2}$$

Answer: B

Objective: (2.2) Solve Quadratic Equation (Exact, Complex Numbers)

Find the x-intercepts.

$$19) y = 2x^2 + 9x - 18$$

$$A) (-6, 0) \text{ and } \left(\frac{3}{2}, 0\right)$$

$$B) (-6, 0)$$

$$C) (6, 0) \text{ and } \left(-\frac{3}{2}, 0\right)$$

$$D) \text{ No x-intercepts}$$

Answer: A

Objective: (2.2) Find x-Intercepts of Quadratic Function

Solve the equation by completing the square.

$$20) 6m^2 + 10m + 3 = 0$$

$$A) \frac{-10 \pm \sqrt{7}}{6}$$

$$B) \frac{-5 \pm \sqrt{7}}{12}$$

$$C) \frac{-5 \pm \sqrt{7}}{6}$$

$$D) \frac{-5 \pm \sqrt{43}}{6}$$

Answer: C

Objective: (2.2) Solve Quadratic Equation by Completing the Square