

UNIT 2 REVIEW

Name: _____ Hr. _____

2.1For Questions 1 and 2, find the y -intercept, axis of symmetry, and vertex of the parabola.

1. $f(x) = -x^2 - 2x + 2$

2. $f(x) = 2x^2 - 4x + 3$

 y -intercept: _____ y -intercept: _____

axis of symmetry: _____

axis of symmetry: _____

vertex: _____

vertex: _____

For Questions 3 and 4, determine whether each function has a maximum or minimum value. Then find the maximum or minimum value of each function.

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

4. $f(x) = -6x^2 + 12x + 21$

5. The height h of a baseball t seconds after being hit is given by $h(t) = -16t^2 + 80t + 3$.

a) What is the maximum height that the baseball reaches?

5a. _____

b) When does this occur?

5b. _____

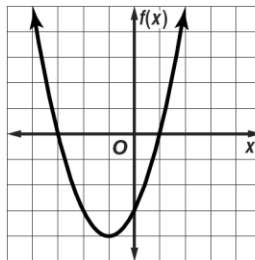
6. Which function is graphed?

A. $f(x) = x^2 - 2x - 3$

B. $f(x) = x^2 + 2x - 3$

C. $f(x) = x^2 + x - 3$

D. $f(x) = (x - 3)^2$



2.2

For Questions 7-10, identify the vertex, axis of symmetry, and the direction of opening.

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

Vertex: _____

Axis: _____

Direction: _____

8. $y = 3(x + 5)^2$

Vertex: _____

Axis: _____

Direction: _____

9. $y = 3x^2 - 6x + 5$

Vertex Form

Equation: _____

Vertex: _____

Axis: _____

Direction: _____

10. $y = 2x^2 + 16x + 29$

Vertex Form

Equation: _____

Vertex: _____

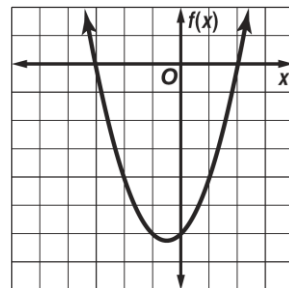
Axis: _____

Direction: _____

11. Write an equation for the parabola with vertex at $(-5, 7)$ and passes through the point $(-3, -1)$.

2.3

12. Use the related graph for $f(x) = x^2 + x - 6$ to determine the solutions of $x^2 + x - 6 = 0$.

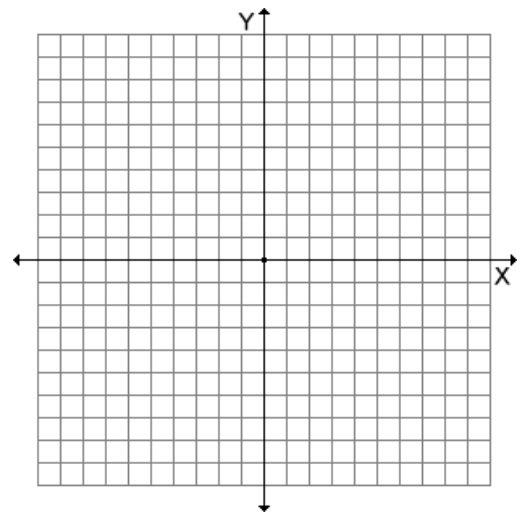


13. Use a quadratic equation to find two real numbers that satisfy the situation, or show that no such numbers exist. Their sum is 5 and their product is -36.

For Questions 14 and 15, solve each equation by Graphing. If exact roots cannot be found, use a graphing calculator to approximate them.

14. $x^2 + 2x - 8 = 0$

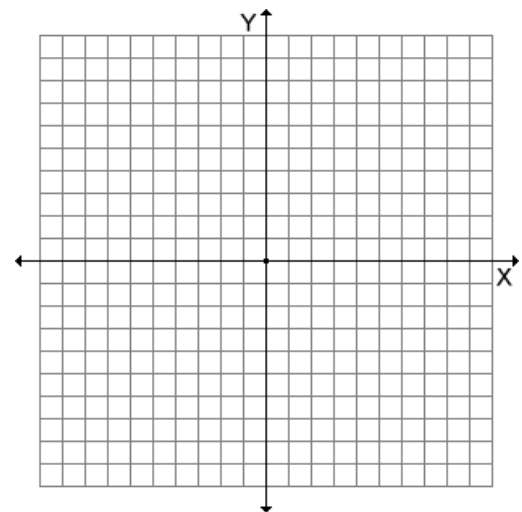
x	y



Solution(s): _____

15. $2x^2 - 12x + 17 = 0$

x	y



Solution(s): _____