

Name _____

Date _____

Additional Exercises 10.5
Form I
Graphs of Quadratic Equations

Determine if the parabola whose equation is given opens upward or downward.

1. $y = x^2 + 2x - 6$ 1. _____

2. $y = -4x^2 + 2x - 2$ 2. _____

Find the two x -intercepts for the parabola whose equation is given. Round irrational answers to the nearest tenth, if necessary.

3. $y = x^2 + 4x - 3$ 3. _____

4. $y = -x^2 + 17x - 72$ 4. _____

5. $y = 2x^2 + 6x - 56$ 5. _____

Find the y -intercept for the parabola whose equation is given.

6. $y = 2x^2 - x$ 6. _____

7. $y = -3x^2 - 4x + 1$ 7. _____

8. $y = x^2 - 7x - 8$ 8. _____

Find the vertex for the parabola whose equation is given.

9. $y = x^2 + 7$ 9. _____

10. $y = x^2 - 8x - 4$ 10. _____

11. $y = -3x^2 + 6x + 6$ 11. _____

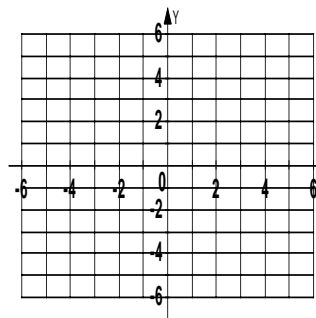
Name _____

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Graph the parabola whose equation is given.

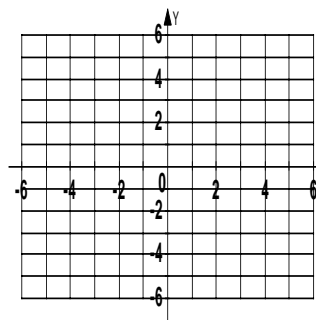
12. $y = x^2 - 6x + 8$

12.



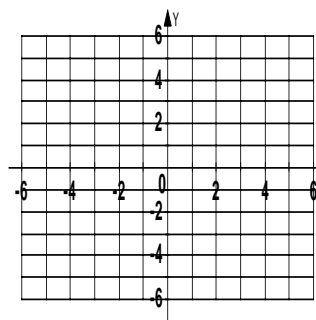
13. $y = -x^2 + 2x + 3$

13.



14. $y = x^2 + 1$

14.



Solve.

15. The cost in millions of dollars for a company to manufacture x thousand automobiles is given by the function $C(x) = 4x^2 - 40x + 225$. Find the number of automobiles that must be produced to minimize the cost.

15. _____

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Additional Exercises 10.5
Form II
Graphs of Quadratic Equations

Determine if the parabola whose equation is given opens upward or downward.

1. $y = -3x^2 + 5$ 1. _____

2. $y = 2x^2 - x + 7$ 2. _____

Find the x -intercept for the parabola whose equation is given. Round irrational answer to the nearest tenth, if necessary.

3. $y = x^2 + 18x$ 3. _____

4. $y = 2x^2 + 3x - 27$ 4. _____

5. $y = x^2 - 2x + 4$ 5. _____

Find the y -intercept for the parabola whose equation is given.

6. $y = 2x^2 - 9x + 6$ 6. _____

7. $y = 4x^2 + \frac{1}{2}x - \frac{3}{4}$ 7. _____

8. $y = -5x^2 - 9$ 8. _____

Find the vertex for the parabola whose equation is given.

9. $y = -3x^2 + x$ 9. _____

10. $y = -x^2 + 12$ 10. _____

11. $y = -x^2 - x - 1$ 11. _____

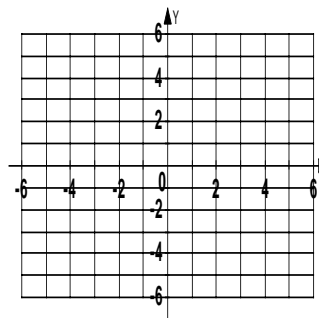
Name _____

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Graph the parabola whose equation is given.

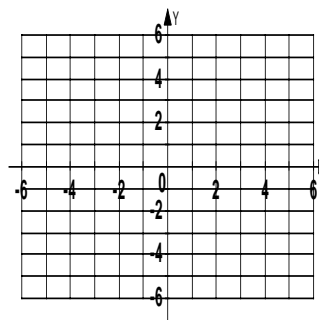
12. $y = x^2 - 8x + 15$

12.



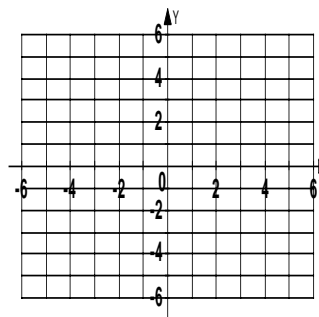
13. $y = -6x^2 - 3x + 1$

13.



14. $y = \frac{1}{2}x^2$

14.



Solve.

15. A projectile is fired from a cliff 200 feet above the water. The height h of the projectile above the water is given by $h = \frac{-32x^2}{(240)^2} + x + 200$, where x is the horizontal distance

15. _____

of the projectile from the base of the cliff. Find the maximum height of the projectile.

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Additional Exercises 10.5
Form III
Graphs of Quadratic Equations

Determine if the parabola whose equation is given opens upward or downward.

1. $y = \frac{3}{4}x^2 - \frac{5}{7}x + \frac{1}{2}$ 1. _____

2. $y = -0.7x^2 + 0.9x - 1.4$ 2. _____

Find the x - intercept for the parabola whose equation is given. Round irrational answer to the nearest tenth, if necessary.

3. $y = x^2 - 2$ 3. _____

4. $y = -x^2 - 4x + 7$ 4. _____

5. $y = x^2 - 5x + 1$ 5. _____

Find the y - intercept for the parabola whose equation is given.

6. $y = 0.07x^2 - 0.9x + 0.15$ 6. _____

7. $y = \frac{5}{8}x^2 - \frac{1}{4}x + \frac{3}{7}$ 7. _____

8. $y = -19x^2 + 15x - 24$ 8. _____

Find the vertex for the parabola whose equation is given.

9. $y = x^2 - 3x - 4$ 9. _____

10. $y = -x^2 + 7x + 7$ 10. _____

11. $y = x^2 + 2x$ 11. _____

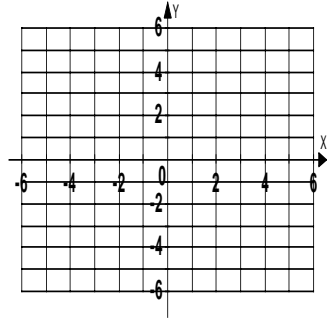
Name _____

Date _____

Graph the parabola whose equation is given.

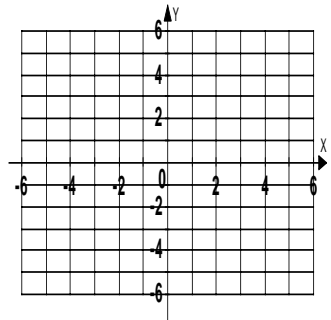
12. $y = 5x^2 - 10x + 4$

12.



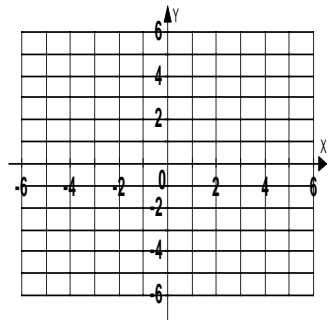
13. $y = x^2 - 4x$

13.



14. $y = -x^2 - 3x$

14.



Solve.

15. The profit that a vendor makes per day by selling x pretzels is given by the function $P(x) = -0.002x^2 + 1.6x - 350$. Find the number of pretzels that must be sold to maximize profit.

15. _____