Algebra 1	Name:
Chap. 9 section 6	Date:
Tutorial practice	Period:



Chapter 9 Quadratic Functions and Equations

Homework Help Online

Online Support for Lesson 9-6 Homework

GUIDED PRACTICE

Click a video icon to see a Lesson Tutorial Video. Click a pencil icon to practice similar problems.



See Example 1

Use the Zero Product Property to solve each equation. Check your answer.

1.
$$(x+2)(x-8)=0$$

2.
$$(x-6)(x-5)=0$$

3.
$$(x+7)(x+9)=0$$



4. (x)(x-1)=0

5.
$$(x)(x+11)=0$$
 6. $(3x+2)(4x-1)=0$



See Example 2

Solve each quadratic equation by factoring. Check your answer.

7.
$$x^2 + 4x - 12 = 0$$
 8. $x^2 - 8x - 9 = 0$ 9. $x^2 - 5x + 6 = 0$

8
$$x^2 - 8x - 9 = 0$$

$$9 \cdot r^2 - 5r + 6 =$$



10.
$$x^2 - 3x = 10$$

11.
$$x^2 + 10x = -16$$

12.
$$x^2 + 2x = 15$$

13.
$$x^2 - 8x + 16 = 0$$

14.
$$-3x^2 = 18x + 27$$

15.
$$x^2 + 36 = 12x$$

16.
$$x^2 + 14x + 49 = 0$$

17.
$$x^2 - 16x + 64 = 0$$

18.
$$2x^2 + 6x = -18$$





See Example 3

19. Games A group of friends tries to keep a beanbag from touching the ground without using their hands. Once the beanbag has been kicked, its height can be modeled by $h = -16t^2 + 14t + 2$, where h is the height in feet above the ground and t is the time in seconds. Find the time it takes the beanbag to reach the ground.

PRACTICE AND PROBLEM SOLVING

Click a video icon to see a Lesson Tutorial Video. Click a lightbulb icon to see a complete solution.



Use the Zero Product Property to solve each equation. Check your answer.

20.
$$(x-8)(x+6)=0$$
 21. $(x+4)(x+7)=0$

21.
$$(x+4)(x+7)=0$$

22.
$$(x-2)(x-5)=0$$

23.
$$(x-9)(x)=0$$

24.
$$(x)(x + 25) = 0$$

23.
$$(x-9)(x)=0$$
 24. $(x)(x+25)=0$ **25.** $(2x+1)(3x-1)=0$



Solve each quadratic equation by factoring. Check your answer.

26.
$$x^2 + 8x + 15 = 0$$
 27. $x^2 - 2x - 8 = 0$ **28.** $x^2 - 4x + 3 = 0$

27.
$$x^2 - 2x - 8 = 0$$

28.
$$x^2 - 4x + 3 = 0$$

29.
$$x^2 + 10x + 25 = 0$$
 30. $x^2 - x = 12$ **31.** $-x^2 = 4x + 4$

30.
$$x^2 - x = 12$$

31.
$$-x^2 = 4x + 4$$



32. Multi-Step The height of a flare can be approximated by the function $h = -16t^2 + 95t + 6$, where h is the height in feet and t is the time in seconds. Find the time it takes the flare to hit the ground.

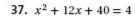


Determine the number of solutions of each equation.

33.
$$(x+8)(x+8)=0$$



35. $(x+7)^2=0$







41. Geometry The photo shows a traditional thatched house as found in Santana, Madeira in Portugal. The front of the house is in the shape of a triangle. Suppose the base of the triangle is 1 m less than its height and the area of the triangle is 15 m². Find the height of the triangle. (*Hint:* Use $A = \frac{1}{2}bh$.)





43. Physics The height of a fireworks rocket in meters can be approximated by $h = -5t^2 + 30t$, where h is the height in meters and t is time in seconds. Find the time it takes the rocket to reach the ground after it has been launched.