

Factor each of the following:

1. $x^2 + 8x - 48$

2. $2x^2 - 7x - 15$

3. $k^2 - 17k + 72$

4. $4x^2 - 8x - 5$

Use factoring and the zero product rule to solve each of the following:

5. $a^2 + 8a + 15 = 0$

6. $4x^2 - x - 3 = 0$

7. $x^2 + 5x + 3 = 17$

8. $9x^2 - 13x = 8x - 10$

9. $3x^2 = 9x - 6$

10. $(2x + 1)(x - 3) = 6x + 18$

11. The length of a closet is $(2x + 1)$ and the width is x . The area of the closet is 10 square feet. What is the length and width of the room?

12. A golfer takes a swing at a ball from the top of a hill. The height of the ball can be modeled by $h = -16t^2 + 32t + 20$. How long before the ball hits the ground by the cup?

Answers

1. $(x + 12)(x - 4)$
2. $(2x + 3)(x - 5)$
3. $(x - 8)(x - 9)$
4. $(2x + 1)(2x - 5)$
5. $a = -5$ and -3
6. $x = -\frac{3}{4}$ and 1
7. $x = -7$ and 2
8. $x = \frac{5}{3}$ and $\frac{2}{3}$
9. $x = 1$ and 2
10. $x = -\frac{3}{2}$ and 7
11. 2 feet by 5 feet
12. It will take $2\frac{1}{2}$ minutes