

Practice 10-5**Factoring to Solve Quadratic Equations**

Use the Zero-Product Property to solve each equation.

1. $(x + 5)(x - 3) = 0$

2. $(x - 2)(x + 9) = 0$

3. $(b - 12)(b + 12) = 0$

4. $(2n + 3)(n - 4) = 0$

5. $(x + 7)(4x - 5) = 0$

6. $(2x + 7)(2x - 7) = 0$

7. $(3x - 7)(2x + 1) = 0$

8. $(8y - 3)(4y + 1) = 0$

9. $(5x + 6)(4x + 5) = 0$

Solve by factoring.

10. $x^2 + 5x + 6 = 0$

11. $b^2 - 7b - 18 = 0$

12. $r^2 - 4 = 0$

13. $x^2 + 8x - 20 = 0$

14. $y^2 + 14y + 13 = 0$

15. $s^2 - 3s - 10 = 0$

16. $x^2 + 7x = 8$

17. $x^2 = 25$

18. $h^2 + 10h = -21$

19. $2r^2 + 8r - 64 = 0$

20. $3a^2 - 36a + 81 = 0$

21. $5x^2 - 45 = 0$

22. $2a^2 - a - 21 = 0$

23. $3m^2 - 11m + 10 = 0$

24. $2x^2 - 7x - 9 = 0$

33. A rectangular poster has an area of 190 in.^2 . The height of the poster is 1 in. less than twice its width. Find the dimensions of the poster.34. A diver is standing on a platform 24 ft above the pool. He jumps from the platform with an initial upward velocity of 8 ft/s. Use the formula $h = -16t^2 + vt + s$, where h is his height above the water, t is the time, v is his starting upward velocity, and s is his starting height. How long will it take for him to hit the water?

Solve each equation.

35. $(x - 9)(x + 8) = 0$

38. $(x - 12)(5x - 13) = 0$

41. $a^2 + 6a - 72 = 0$

44. $3m^2 + 12m - 288 = 0$

47. $3c^2 + 8c = 3$

50. $x^2 + 306 = -35x$