

8-6 Practice

Solving $x^2 + bx + c = 0$

Factor each polynomial.

1. $a^2 + 10a + 24$

2. $h^2 + 12h + 27$

3. $x^2 + 14x + 33$

4. $g^2 - 2g - 63$

5. $w^2 + w - 56$

6. $y^2 + 4y - 60$

7. $b^2 + 4b - 32$

8. $n^2 - 3n - 28$

9. $t^2 + 4t - 45$

10. $z^2 - 11z + 30$

11. $d^2 - 16d + 63$

12. $x^2 - 11x + 24$

13. $q^2 - q - 56$

14. $x^2 - 6x - 55$

15. $32 + 18r + r^2$

16. $48 - 16g + g^2$

17. $j^2 - 9jk - 10k^2$

18. $m^2 - mv - 56v^2$

Solve each equation. Check the solutions.

19. $x^2 + 17x + 42 = 0$

20. $p^2 + 5p - 84 = 0$

21. $k^2 + 3k - 54 = 0$

22. $b^2 - 12b - 64 = 0$

23. $n^2 + 4n = 32$

24. $h^2 - 17h = -60$

25. $t^2 - 26t = 56$

26. $z^2 - 14z = 72$

27. $y^2 - 84 = 5y$

28. $80 + a^2 = 18a$

29. $u^2 = 16u + 36$

30. $17r + r^2 = -52$

31. Find all values of k so that the trinomial $x^2 + kx - 35$ can be factored using integers.

32. **CONSTRUCTION** A construction company is planning to pour concrete for a driveway. The length of the driveway is 16 feet longer than its width w .

- Write an expression for the area of the driveway.
- Find the dimensions of the driveway if it has an area of 260 square feet.

33. **WEB DESIGN** Janeel has a 10-inch by 12-inch photograph. She wants to scan the photograph, then reduce the result by the same amount in each dimension to post on her Web site. Janeel wants the area of the image to be one eighth that of the original photograph.

- Write an equation to represent the area of the reduced image.
- Find the dimensions of the reduced image.