

Practice

Form G

Factoring $x^2 + bx + c$ **Complete.**

1. $k^2 + 11k + 30 = (k + 5)(k + \square)$

2. $x^2 + 6x + 9 = (x + 3)(x + \square)$

3. $t^2 + 7t + 10 = (t + 2)(t + \square)$

4. $n^2 + 9n + 14 = (n + 7)(n + \square)$

5. $w^2 + 13w + 36 = (w + 4)(w + \square)$

6. $y^2 + 18y + 65 = (y + 13)(y + \square)$

7. $s^2 - 12s + 32 = (s - 8)(s - \square)$

8. $g^2 - 14g + 45 = (g - 9)(g - \square)$

9. $v^2 - 17v + 60 = (v - 12)(v - \square)$

10. $q^2 - 13q + 42 = (q - 6)(q - \square)$

11. $d^2 - 9d + 8 = (d - 8)(d - \square)$

12. $r^2 - 9r + 20 = (r - 5)(r - \square)$

Factor each expression. Check your answer.

13. $y^2 + 5y + 6$

14. $t^2 + 9t + 18$

15. $x^2 + 16x + 63$

16. $n^2 - 12n + 35$

17. $r^2 - 12r + 27$

18. $q^2 - 12q + 20$

19. $w^2 + 19w + 60$

20. $b^2 - 11b + 24$

21. $z^2 - 13z + 12$

Complete.

22. $q^2 + q - 56 = (q - 7)(q + \square)$

23. $z^2 - 3z - 18 = (z - 6)(z + \square)$

24. $n^2 - 6n - 40 = (n + 4)(n - \square)$

25. $y^2 + 3y - 4 = (y + 4)(y - \square)$

26. $v^2 - 5v - 36 = (v - 9)(v + \square)$

27. $d^2 + 2d - 15 = (d - 3)(d + \square)$

28. $m^2 - 5m - 14 = (m + 2)(m - \square)$

29. $p^2 - 6p - 16 = (p - 8)(p + \square)$

Practice (continued)

Form G

Factoring $x^2 + bx + c$

Factor each expression. Check your answer.

30. $r^2 + 3r - 10$

31. $w^2 + 2w - 8$

32. $z^2 + 3z - 40$

33. $d^2 - 4d - 12$

34. $p^2 - 7p - 8$

35. $s^2 - 5s - 24$

36. $x^2 + 5x - 6$

37. $v^2 + 3v - 28$

38. $n^2 + 2n - 63$

39. $t^2 - 2t - 24$

40. $a^2 - 7a - 18$

41. $c^2 - c - 30$

42. The area of a rectangular door is given by the trinomial $x^2 - 14x + 45$. The door's width is $(x - 9)$. What is the door's length?

43. The area of a rectangular painting is given by the trinomial $a^2 - 6a - 16$. The painting's length is $(a + 2)$. What is the painting's width?

Write the correct factored form for each expression.

44. $k^2 + 4kn - 96n^2$

45. $g^2 - 13gh + 42h^2$

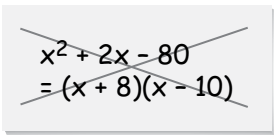
46. $m^2 - 4mn - 32n^2$

47. $x^2 + 5xy - 14y^2$

48. $s^2 + 17st + 72t^2$

49. $h^2 + 3hj - 88j^2$

50. **Error Analysis** Describe and correct the error made in factoring the trinomial.


$$\begin{aligned} &x^2 + 2x - 80 \\ &= (x + 8)(x - 10) \end{aligned}$$

51. A rectangular pool cover has an area of $p^2 + 9p - 36$. What are possible dimensions of the pool cover? Use factoring.