

Practice

Form K

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

1. $n^2 + 9n + 18 = (n + 3)(n + \square)$

2. $t^2 + 9t + 14 = (t + 2)(t + \square)$

3. $d^2 + 11d + 30 = (d + 5)(d + \square)$

4. $v^2 + 2v + 1 = (v + 1)(v + \square)$

5. $m^2 - 8m + 15 = (m - 5)(m - \square)$

6. $a^2 - 13a + 22 = (a - 2)(a - \square)$

7. $z^2 - 17z + 72 = (z - 8)(z - \square)$

8. $w^2 - 7w + 12 = (w - 3)(w - \square)$

Factor each expression. Check your answer.

9. $g^2 + 6g + 8$

10. $y^2 + 10y + 24$

11. $r^2 + 12r + 35$

12. $k^2 + 9k + 8$

13. $x^2 - 16x + 60$

14. $h^2 - 19h + 78$

Complete.

15. $g^2 + 5g - 24 = (g - 3)(g + \square)$

16. $b^2 - 6b - 7 = (b - 7)(b + \square)$

17. $y^2 + 4y - 45 = (y + 9)(y - \square)$

18. $k^2 + 4k - 12 = (k + 6)(k - \square)$

19. $p^2 - 7p - 60 = (p + 5)(p - \square)$

20. $n^2 - 6n - 40 = (n - 10)(n + \square)$

Practice (continued)

Form K

Factoring $x^2 + bx + c$ **Factor each expression. Check your answer.**

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

22. $t^2 + t - 20$

23. $z^2 - z - 72$

24. $m^2 - 6m - 27$

25. $a^2 + 4a - 21$

26. $v^2 - 4v - 12$

27. $c^2 - 7c - 44$

28. $r^2 + 6r - 16$

29. $f^2 + f - 6$

30. $j^2 - 6j - 55$

31. $y^2 + 3y - 54$

32. $n^2 - 10n - 11$

33. The area of a rectangular window is given by the trinomial $x^2 - 14x + 48$. The window's length is $(x - 8)$. What is the window's width?

34. The area of a rectangular area rug is given by the trinomial $f^2 - 4f - 77$. The length of the rug is $(f + 7)$. What is the width of the rug?

35. **Reasoning** Write possible expressions for the length and the width of a rectangle with area $x^2 + 13x + 42$.

36. A rectangular tabletop has an area of $t^2 + 2t - 99$. What are possible dimensions of the tabletop? Use factoring.