

**Practice****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)**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.