

### 4-3 Solving Quadratic Equations by Factoring

**Write a quadratic equation in standard form with the given root(s).**

17. 7

**ANSWER:**

$$x^2 - 14x + 49 = 0$$

19.  $\frac{1}{5}, 6$

**ANSWER:**

$$5x^2 - 31x + 6 = 0$$

**Factor each polynomial.**

21.  $51c^3 - 34c$

**ANSWER:**

$$17c(3c^2 - 2)$$

23.  $3x^2 - 12$

**ANSWER:**

$$3(x + 2)(x - 2)$$

25.  $48cg + 36cf - 4dg - 3df$

**ANSWER:**

$$(12c - d)(4g + 3f)$$

27.  $x^2 - 9x - 22$

**ANSWER:**

$$(x - 11)(x + 2)$$

### **4-3 Solving Quadratic Equations by Factoring**

29.  $15x^2 + 7x - 2$

**ANSWER:**

$(5x - 1)(3x + 2)$

31.  $18x^2 + 15x - 12$

**ANSWER:**

$3(2x - 1)(3x + 4)$

33.  $9x^2 - 25$

**ANSWER:**

$(3x + 5)(3x - 5)$

35.  $15x^2 - 84x - 36$

**ANSWER:**

$3(5x + 2)(x - 6)$

37.  $12xy^2 - 108x$

**ANSWER:**

$12x(y + 3)(y - 3)$

**Solve each equation by factoring.**

39.  $x^2 - 5x - 24 = 0$

**ANSWER:**

$8, -3$

41.  $x^2 + 13 = 17$

**ANSWER:**

$2, -2$

### **4-3 Solving Quadratic Equations by Factoring**

43.  $-8x^2 + 46x - 30 = 0$

**ANSWER:**

$$5, \frac{3}{4}$$