

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Module 13** Solving Quadratic Equations  
of One Variable

**Lesson 1** Defining Quadratic Equations  
of One Variable



**independent  
practice**

Determine if each equation is quadratic, linear, or neither.

1.  $a^2 = 2$

\_\_\_\_\_

2.  $2x^2 - 7x = 8$

\_\_\_\_\_

3.  $b^3 + 3b + 5 = 0$

\_\_\_\_\_

4.  $4x - 9x = 7$

\_\_\_\_\_

5.  $4x(x - 3) = 4$

\_\_\_\_\_

6.  $3x^2 = 3x^2 - 7x + 3$

\_\_\_\_\_

7.  $3y(y^2 + 1) = 0$

\_\_\_\_\_

8.  $6^2m + 4m = 7$

\_\_\_\_\_

9.  $2t^2 - 4t + 1 = t^2 - 6t$

\_\_\_\_\_

10.  $3x^2 + 2x = 8(x + 1)$

\_\_\_\_\_

11.  $4^2x + x = 7^2$

\_\_\_\_\_

12.  $2(4m^2 - 3) = 8m^2$

\_\_\_\_\_

Determine if each equation is quadratic, linear, or neither. If it is a quadratic equation in one variable, put it into standard form and identify the coefficients  $a$ ,  $b$ , and  $c$ .

13.  $b^2 + 3 = 8b$  \_\_\_\_\_

\_\_\_\_\_

14.  $2g(g + 3) = 0$  \_\_\_\_\_

\_\_\_\_\_

15.  $2x^2 + 4x = 2x^2 - 3$  \_\_\_\_\_

\_\_\_\_\_

16.  $9 = 4x - 3$  \_\_\_\_\_

\_\_\_\_\_

17.  $8 = 2b^2 + 4b$  \_\_\_\_\_

\_\_\_\_\_

18.  $(c - 2)^2 - 3 = 0$  \_\_\_\_\_

\_\_\_\_\_

19.  $x^2(x^2 - 2x) = 3$  \_\_\_\_\_

\_\_\_\_\_

20.  $(h^2 - 4)^2 = 0$  \_\_\_\_\_

\_\_\_\_\_

21.  $(k - 4)^2 + 2 = k^2 - 1$  \_\_\_\_\_  
\_\_\_\_\_

22.  $6(c + 2)^2 - 2c^3 = 4$  \_\_\_\_\_  
\_\_\_\_\_

23.  $(n + 1)^2 + n = 0$  \_\_\_\_\_  
\_\_\_\_\_

24.  $(3c - 2)^2 + 4c = 6$  \_\_\_\_\_  
\_\_\_\_\_

## Journal

1. Explain how to identify a polynomial equation.
2. Explain how to identify a linear equation in one variable.
3. Explain how to identify a quadratic equation in one variable.
4. Write a quadratic equation in one variable where  $a = 2$ ,  $b = -3$ , and  $c = 5$ .
5. Marci is having trouble with her assignment. Explain to her why  $(x + 3)^2 - 3x = x + 2$  is a quadratic equation.

## Cumulative Review

### Simplify.

1.  $(t^2 - 4t - 3) - (3t^2 + 2)$  \_\_\_\_\_

2.  $(6b^2 + 3b + 8) + (9b^2 - 8b + 1)$  \_\_\_\_\_

3.  $4a^2b(6b - 3ab^2 + 2b^2)$  \_\_\_\_\_

4.  $(3m - 4n)(5m + 2n)$  \_\_\_\_\_

5.  $(r - 3)(r^2 + 2r - 7)$  \_\_\_\_\_

6.  $(10x^2 - 23x - 5) \div (2x - 5)$  \_\_\_\_\_

### Factor, if possible.

7.  $16g^2h - 12h^2 + 4gh^2$  \_\_\_\_\_

8.  $w^2 - 9w + 20$  \_\_\_\_\_

9.  $4uv + 8v - 3u - 6$  \_\_\_\_\_

10.  $6a^2 - 7a - 5$  \_\_\_\_\_