NAME

Module 13 Solving Quadratic Equations of One Variable
Lesson 1 Defining Quadratic Equations of One Variable

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

1. $7 = 3x - 4$

Linear

2. $6x^2 + 2 = 5$

Quadratic

3. $8x^3 + 5x + 7 = 0$

Neither

4. $4x^2 = 8$

Quadratic

5. $6a^2 + 5a = 4$

Quadratic

6. $a(9a + 3) = 0$

Quadratic

7. $4^2g + 7g = 5$

Linear

8. $5^2c^2 + 4^3c - 2 = 0$

Quadratic

9. $3(2m - 1) = 5$

Linear

10. $m(3m + 6) = 0$

Quadratic

11. $w(4w + 3) = 4w^2 + 1$

Linear

12. $h^2(h - 4) = h + 1$

Neither

13. $c^3 + 3c = 8c$

Neither

14. $3^3t + 4t = 6t$

Linear

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*.

15. $d^2(d + 2) = d^3 + d^2$

Quadratic; $d^2 + 0d + 0 = 0$

$a = 1$, $b = 0$, and $c = 0$

16. $3p^2 + 4p + 8 = p^2 + 1$

Quadratic; $2p^2 + 4p + 7 = 0$

$a = 2$, $b = 4$, and $c = 7$

17. $4z - 1 = z^3 + 3$

Neither

18. $b^2(b - 2) = 3b + 4$

Neither

19. $a(a + 4) = 2(a + 4)$

Quadratic; $a^2 + 2a - 8 = 0$

$a = 1$, $b = 2$, and $c = -8$

20. $k^2 = 0$

Quadratic; $k^2 + 0k + 0 = 0$

$a = 1$, $b = 0$, and $c = 0$

21. $(j^2 - 2)^2 + 4j^2 = j^4 + 6j - 3$

Linear

22. $(2c + 3)^2 - 1 = 4c^2$

Linear

23. $(j^2 + 3)^2 + j^2 = j^4 - 2j^2$

Quadratic; $9j^2 + 0j + 0 = 0$

$a = 9$, $b = 0$, and $c = 0$

24. $(5v - 2)^2 + 3v = v - 1$

Quadratic; $25v^2 - 18v + 5 = 0$

$a = 25$, $b = -18$, and $c = 5$

25. $(c - 1)^2 = 3c + 4$

Quadratic; $c^2 - 5c - 3 = 0$

$a = 1$, $b = -5$, and $c = -3$

26. $(2q + 3)^2 - 2q = 4q + 1$

Quadratic; $4q^2 + 6q + 8 = 0$

$a = 4$, $b = 6$, and $c = 8$

27. $(w^2 - 1)(w + 1) = 6$

Neither

28. $(2b + 3)(b - 2) = b + 4$

Quadratic; $2b^2 - 2b - 10 = 0$

$a = 2$, $b = -2$, and $c = 10$