

LESSON  
9.4**Practice C**

For use with pages 575–580

**Solve the equation.**

1.  $(x + 3)\left(x - \frac{2}{5}\right) = 0$

2.  $\left(m - \frac{5}{2}\right)\left(m + \frac{3}{2}\right) = 0$

3.  $(4b + 16)(b - 6) = 0$

4.  $(7a - 14)(a + 8) = 0$

5.  $(2y + 3)(y - 9) = 0$

6.  $(5z - 8)(3z + 2) = 0$

7.  $(9w - 2)(7w - 3) = 0$

8.  $(8 - 2c)(5c + 1) = 0$

9.  $(9 - 8r)(10 - 4r) = 0$

**Factor out the greatest common monomial factor.**

10.  $9x^2 - 21y$

11.  $4m^3 + 24m$

12.  $10p^2q - 5pq^2$

13.  $6x^3y + 9y^2$

14.  $35a^2b^2 - 5ab$

15.  $12m^2n - 8mn^2$

16.  $w^4 - 2w^3 + w$

17.  $-3p^4 + 15p^2 + 6p$

18.  $8r^5 - 20r^4 - 12r^2$

**Solve the equation.**

19.  $12a^2 - 9a = 0$

20.  $18x^2 + 12x = 0$

21.  $6z^2 - 8z = 0$

22.  $20p^2 = -24p$

23.  $-28m^2 = 14m$

24.  $-30r^2 = -25r$

25.  $100m^2 = -6m$

26.  $15y - 50y^2 = 0$

27.  $26w + 34w^2 = 0$

**Find the zeros of the function.**

28.  $f(x) = -28x^2 + 7x$

29.  $f(x) = -9x^2 + 4x$

30.  $f(x) = 5x^2 - 3x$

- 31. Fish** A fish jumps out of the water while swimming. The height  $h$  (in feet) of the fish can be modeled by  $h = -16t^2 + 3.5t$  where  $t$  is the time (in seconds) since the fish jumped out of the water.

- Find the zeros of the function. *Explain* what the zeros mean in this situation.
- What is a reasonable domain for the function? *Explain* your answer.

- 32. Storage Structure** The cross section of a wooden storage structure can be modeled by the polynomial function

$$y = -\frac{3}{80}(2x - 40)(2x + 40)$$

where  $x$  and  $y$  are measured in feet, and the center of the structure is where  $x = 0$ .

- Explain* how to use the algebraic model to find the width of the structure.
- Use the model to find the structure's width. Show your work.
- Use the model to find the coordinates of the center of the structure. Show your work.

