Name _____     Date _____

# Practice C
*For use with the lesson "Solve Polynomial Equations in Factored Form"*

## Solve the equation.

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

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

**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.

   **a.** Find the zeros of the function. *Explain* what the zeros mean in this situation.

   **b.** 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

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

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

   **a.** *Explain* how to use the algebraic model to find the width of the structure.

   **b.** Use the model to find the structure's width. Show your work

   **c.** Use the model to find the coordinates of the center of the structure. Show your work.