

# 2.5 Homework

p. 80

2, 4, 8, 14, 18, 22, 26, 32



Solve the equation.

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

$$m - \frac{5}{2} = 0$$

$$+ \frac{5}{2} = + \frac{5}{2}$$

$$m = \frac{5}{2}$$

$$m + \frac{3}{2} = 0$$

$$- \frac{3}{2} = - \frac{3}{2}$$

$$m = - \frac{3}{2}$$

$$- \frac{3}{2}, \frac{5}{2}$$

The solutions of the equation are



**Solve the equation.**

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

$$7a - 14 = 0$$

$$+14 = +14$$

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$$7a = 14$$

$$\underline{7}$$

$$\underline{7}$$

$$a = 2$$

$$a + 8 = 0$$

$$-8 = -8$$

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$$a = -8$$

The solutions of the equation are  $-8, 2$ .



Solve the equation.

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

$$8 - 2c = 0$$

$$\begin{array}{r} -8 \quad \quad = -8 \\ \hline \end{array}$$

$$\begin{array}{r} -2c = -8 \\ \hline \end{array}$$

$$\begin{array}{r} -2 \quad -2 \\ \hline \end{array}$$

$$c = 4$$

$$5c + 1 = 0$$

$$\begin{array}{r} -1 = -1 \\ \hline \end{array}$$

$$\begin{array}{r} 5c = -1 \\ \hline \end{array}$$

$$5$$

$$5$$

$$c = \frac{-1}{5}$$

The solutions of the equation are

$$-\frac{1}{5}, 4$$



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

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

What is the Greatest Common Factor (GCF)?

$$\underline{35a^2b^2} - \underline{5ab}$$

What number can we divide 35 and 5 by that will give a whole number as an answer? **5**

$$5ab$$

$$5ab$$

What number can we divide  $a^2$  and  $a$  by that will give a variable as an answer? **a**

7

1

$$\cancel{35} \cdot \cancel{a} \cdot \cancel{a} \cdot \cancel{b} \cdot \cancel{b} - \cancel{5} \cdot \cancel{a} \cdot \cancel{b}$$

What number can we divide  $b^2$  and  $b$  by that will give a variable as an answer? **b**

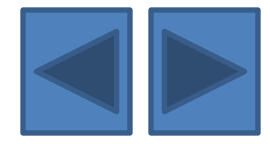
$$\cancel{5} \cdot \cancel{a} \cdot \cancel{b}$$

$$\cancel{5} \cdot \cancel{a} \cdot \cancel{b}$$

1

1

$$5ab(7ab - 1)$$



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

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

What is the Greatest Common Factor (GCF)?

$$\begin{array}{ccc} 8r^5 & - & 20r^4 & - & 12r^2 \\ \hline 4r^2 & & 4r^2 & & 4r^2 \end{array}$$

What number can we divide 8, 20, and 12 by that will give a whole number as an answer?

2 5 3 4

$$\begin{array}{ccc} \cancel{8} \cdot \cancel{r} \cdot \cancel{r} \cdot \cancel{r} \cdot \cancel{r} \cdot \cancel{r} & - & \cancel{20} \cdot \cancel{r} \cdot \cancel{r} \cdot \cancel{r} \cdot \cancel{r} & - & \cancel{12} \cdot \cancel{r} \cdot \cancel{r} \\ \hline \cancel{4} \cdot \cancel{r} \cdot \cancel{r} & & \cancel{4} \cdot \cancel{r} \cdot \cancel{r} & & \cancel{4} \cdot \cancel{r} \cdot \cancel{r} \\ \hline 1 & & 1 & & 1 \end{array}$$

What number can we divide  $r^5$ ,  $r^4$  and  $r^2$  by that will give a variable as an answer?

$r^2$

$4r^2(2r^3 - 5r^2 - 3)$



Solve the equation.

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

$$20p^2 + 24p = 0$$

$$4p(5p + 6) = 0$$

$$\frac{4p}{4} = \frac{0}{4}$$

$$p = 0$$

$$p = 0$$

$$5p + 6 = 0$$

$$-6 = -6$$

$$\frac{5p}{5} = \frac{-6}{5}$$

$$p = \frac{-6}{5}$$

$$p = \frac{-6}{5}$$

$$-\frac{6}{5}, 0$$

The solutions of the equation are \_\_\_\_\_.



Solve the equation.

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

$$5y(3 - 10y) = 0$$

$$\frac{5y}{5} = \frac{0}{5}$$

$$y = 0$$

$$y = 0$$

$$3 - 10y = 0$$

$$-3 = -3$$

$$-10y = -3$$

$$\frac{-10y}{-10} = \frac{-3}{-10}$$

$$y = \frac{-3}{-10} = \frac{3}{10}$$

$$0, \frac{3}{10}$$

The solutions of the equation are 0,  $\frac{3}{10}$ .



**32. 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.

OMG

