

9.4a Warm-Up:

Solve the following.

1. $\frac{75}{x0}$
 $\textcircled{0}$

2. $5x = 0$ $x = 0$

3. $0x = 0$

$x = \mathbb{R}'s$
real #'s

If $ab = 0$, then $a = \underline{0}$ or $b = \underline{0}$.

$$(4-4)(4+2) = 0 \cdot 6 = 0$$

$$(-2-4)(-2+2) = -6 \cdot 0 = 0$$

Solve $(x - 4)(x + 2) = 0$. (aka. Find the roots of the equation.)

$$\begin{array}{r} x - 4 = 0 \\ +4 \quad +4 \end{array} \quad \text{OR} \quad \begin{array}{r} x + 2 = 0 \\ -2 \quad -2 \end{array}$$

$$x = 4 \quad \text{OR} \quad x = -2$$

Solve the equation.

1. $(x - 5)(x - 1) = 0$

$$\begin{array}{r} x - 5 = 0 \quad x - 1 = 0 \\ +5 \quad +5 \quad +1 \quad +1 \end{array}$$

$$x = 5 \text{ or } x = 1$$

2. $(2x + 3)(3x - 7) = 0$

$$\begin{array}{r} 2x + 3 = 0 \quad 3x - 7 = 0 \\ +3 \quad -3 \quad +7 \quad +7 \\ \hline 2x = -3 \quad 3x = 7 \\ \frac{2x}{2} = \frac{-3}{2} \quad \frac{3x}{3} = \frac{7}{3} \end{array}$$

$$x = -\frac{3}{2} \text{ or } x = \frac{7}{3}$$

Try these.

Solve the equation.

1. $(x - 3)(4x + 12) = 0$

$x - 3 = 0$ $4x + 12 = 0$

$x = 3$

$4x = \frac{-12}{4}$

or

$x = -3$

2. $(3x + 11)(x + 1) = 0$

$3x + 11 = 0$ $x + 1 = 0$

$3x = \frac{-11}{3}$

or

$x = -\frac{11}{3}$

$x = -1$

Previous ex's have been factored.
May need to factor in order to solve.

Factoring polynomials.

1. $12x + 24$

$$12(x + 2)$$

$$\frac{12x}{12}$$

$$\frac{24}{12} = 2$$

2. $2x + 2y$

$$2(x + y)$$

$$\frac{2x}{2}$$

$$\frac{2y}{2}$$

Factor the polynomial.

1. $14m + 35n$

$$7(2m + 5n)$$

2. $12x + 42y$

$$6(2x + 7y)$$

3. $4x^4 + 24x^3$

$$4x^3(x + 6)$$

$$\frac{4x^4}{4x^3} = x$$

$$\frac{24x^3}{4x^3} = 6.$$

Try these on your own.
Factor the polynomial.

1. $8x + 12y$

$$4(2x + 3y)$$

2. $14y^2 + 21y$

$$7y(2y + 3)$$

Homework:

pp 578-580

If you feel you do not yet fully understand this lesson, then do the following:

#'s 2-26 E, 60-64 E

OR If you feel you already know this material, do these:

#'s 12, 14, 16, 20, 22

Your work must be neat & you can miss no more than 1. If you miss more than 1, you need more practice and must do the remainder of the assignment.

(Option 2 is not an option if you are absent)