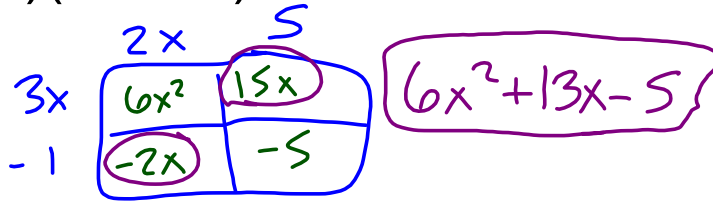


Warm Up

Week 7

$$(3x - 1)(2x + 5)$$



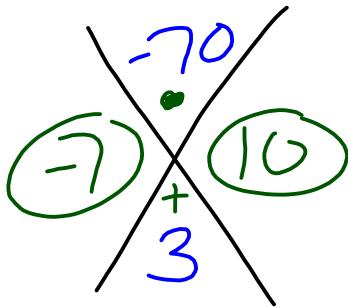
Solve: $3x - 5 = 7x + 2$

$$\begin{array}{r|l} -3x & -3x \\ \hline -5 & 4x + 2 \\ -2 & -2 \end{array}$$

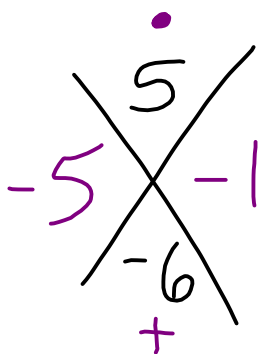
$$\frac{-7}{4} = \frac{4x}{4}$$

$$x = -\frac{7}{4}$$

Homework Questions?



- 1, 70
- 2, 35
- 5, 14
- 7, 10



- 5, 1

Self Scoring Scale

4- I can *summarize* the concepts and explain it to others.

3- I can *apply* the concepts to answer questions correctly.

2- I can *apply* the concepts but with some *mistakes*.

1- I *need help* to know how to apply the concepts.

0- I *can't* apply the concepts even with help.

Quiz Was out of 35 points

A - 31.5

B - 28

C - 24.5

D - 21

10.4 Solving Polynomial Equations in Factored Form

- Goals:**
- Solve a polynomial equation in factored form.
 - Relate factors and x-intercepts

EQ: How do you find x-intercepts in factored form?

Vocabulary

Factored form:

written as a product of 2 or more linear factors

$$\text{ex: } x^2 + 6x + 9 = (x+3)(x+3)$$

$$(x-1)(x+3)(x+2) = 0$$

Zero-product property:

If two numbers are multiplied to get 0, one of them must be = 0.

If $A \cdot B = 0$,
then either $A = 0$ or $B = 0$.


ZERO-PRODUCT PROPERTY

Let a and b be real numbers. If $ab = 0$, then $a = 0$ or $b = 0$.

Example 1: Using the Zero-Product Property

Solve the equation $(x + 17)(x - 12) = 0$.

$$x + 17 = 0$$

$$-17 \quad -17$$

$$x = -17$$

$$x - 12 = 0$$

$$+12 \quad +12$$

$$x = 12$$

Example 2: Solving a Repeated-Factor Equation

$$\underline{(x-9)^2 = 0}$$

$$(x-9)(x-9) = 0$$

$$\begin{array}{l} x-9=0 \\ +9 \quad -9 \\ \hline x=9 \end{array} \qquad \begin{array}{l} x-9=0 \\ -9 \quad +9 \\ \hline x=9 \end{array}$$

Example 3: Solving a Factored Cubic Equation

Solve $(7x+3)(2x-1)(x+5) = 0$.

$$\begin{array}{l} 7x+3=0 \\ -3 \quad -3 \\ \hline 7x = -3 \\ \frac{7x}{7} = \frac{-3}{7} \\ x = -\frac{3}{7} \end{array} \qquad \begin{array}{l} 2x-1=0 \\ +1 \quad +1 \\ \hline 2x = 1 \\ \frac{2x}{2} = \frac{1}{2} \\ x = \frac{1}{2} \end{array} \qquad \begin{array}{l} x+5=0 \\ -5 \quad -5 \\ \hline x = -5 \end{array}$$

Try It Solve the equation.

1. $(3x - 7)(x + 2)(4x + 9) = 0$

$$\begin{array}{l} 3x - 7 = 0 \\ \uparrow \quad \uparrow \\ 3x = 7 \\ \frac{3x}{3} = \frac{7}{3} \\ \boxed{X = \frac{7}{3}} \end{array} \quad \begin{array}{l} x + 2 = 0 \\ \quad \uparrow \quad \uparrow \\ \quad -2 \quad -2 \\ \boxed{X = -2} \end{array} \quad \begin{array}{l} 4x + 9 = 0 \\ \quad \uparrow \quad \uparrow \\ \quad -9 \quad -9 \\ \frac{4x}{4} = \frac{-9}{4} \\ \boxed{X = -\frac{9}{4}} \end{array}$$

2. $(x + 1)^2 = 0$

$$\begin{array}{l} (x+1)(x+1) = 0 \\ \quad \uparrow \quad \quad \uparrow \\ x+1 = 0 \quad x+1 = 0 \\ \quad \uparrow \quad \uparrow \quad \quad \uparrow \quad \uparrow \\ \quad -1 \quad -1 \quad \quad -1 \quad -1 \\ \boxed{X = -1} \quad \boxed{X = -1} \end{array}$$

10.4 Homework

10.4 p.600 #20-42

&

"X" wkst Set 1 & 2

Due Wed.