Warm-up

PEMDAS

Solve the following proportion. Show all steps.

1. $\frac{3x}{12} = \frac{-4}{2}$

$6x = -48$

$\frac{6x}{6} = \frac{-48}{6}$

$x = -8$

$\frac{1}{3} \approx .33$

2. $\frac{-2}{4} = \frac{2x-3}{10}$

$-20 = 8x - 12$

$+12 \quad +12$

$-8 = 8x$

$\frac{-8}{8} = \frac{8x}{8}$

$x = -1$

3. $\frac{6}{x} = \frac{8}{1}$

$\frac{6}{8} = \frac{8x}{8}$

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

$= .75$

Launch

Evaluate each expression:

1. $9 + (-7) = 2$

2. $9 - 17 = -8$

Solve each equation:

3. $\frac{x}{-4} + 6 = 12$

$-6 \quad -6$

$\frac{x}{-4} = 6$

$\cdot -4 \quad \cdot -4$

$x = -24$

4. $x - 13 = -27$

$+13 \quad +13$

$x = -14$

Review of Solving Equations

obj: Master the skills of solving equations when the variable is on one side

How do we solve equations?

1. Make sure variable is by itself.

1. Simplify each side first.
   -Combining like terms and distributive property.

2. Move like terms to the same side of the equal sign.
   - add or subtract from both sides.
   Using inverse operations.

3. Get the variable all by itself.
   - Multiply or divide. Keep the sign the same. Inverse operation again.

Examples: Solve the following equations.

PEMDAS

1. $-12 = 3(x + 2)$

$-12 = 3x + 6$

$-6 \quad -6$

$\frac{-18}{3} = \frac{3x}{3}$

$x = -6$

2. $5x + 12 - 2x = 18$

$3x + 12 = 18$

$-12 \quad -12$

$\frac{3x}{3} = \frac{6}{3}$

$x = 2$

3. $\frac{(x - 8)}{3} = 15$

$\cdot 3 \quad \cdot 3$

$x - 8 = 45$

$+8 \quad +8$

$x = 53$

4. $\frac{3x - 4}{2} = -5$

Assignment: Solve the following. Show all steps.

1. $4x - 7 = 5$
2. $\frac{x}{2} + 5 = 7$
3. $4(x - 9) = 8$
4. $8 - 2x = 34$
5. $3x - x + 15 = 41$
6. $\frac{x + 8}{-3} = 12$
7. $\frac{x}{-4} - 8 = -42$
8. $-2(3x + 5) = 14$
9. $x + 5x - 5 = 1$
10. $\frac{4x - 7}{5} = -11$