

Warm Up

September 27, 2018

1.) Evaluate the expressions below if  $x = 2$  and  $y = -3$

A.  $3x - 8y^2$

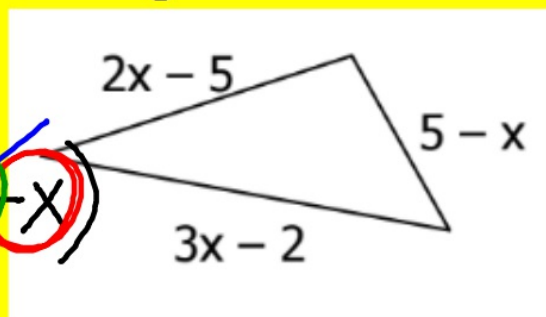
$$3(2) - 8(-3)^2$$
$$3(2) - 8(9)$$
$$6 - 72$$
$$-66$$

B.  $4xy + 2x^3y$

$$4(2)(-3) + 2(2)^3(-3)$$
$$4(2)(-3) + 2(8)(-3)$$
$$-24 - 48$$
$$-24 + (-48) = -72$$

2.) Write the perimeter of the triangle as a simplified expression.

$$\cancel{(2x - 5)} + \cancel{(3x - 2)} + \cancel{(5 - x)}$$
$$4x - 2$$



# Solving One-Step Equations =

## Addition and Subtraction

To undo addition, you subtract.

Ex.)  $m + 12 = 10$

$$\begin{array}{r} \cancel{-12} \quad -12 \\ \hline m = -2 \end{array}$$

$$\begin{array}{l} -2 + 12 = 10 \\ 10 = 10 \checkmark \end{array}$$

To undo subtraction, you add.

Ex.)  $-2 = g - 9$

$$\begin{array}{r} +9 \quad +9 \\ \hline 7 = 9 \end{array}$$

$$\begin{array}{l} -2 = 7 - 9 \\ -2 = -2 \checkmark \end{array}$$

You Try:

$$a + 37 = 54$$

$$a + 15 = -7$$

$$a - 12 = -29$$

$$a - 26 = 30$$

## Multiplication and Division

To undo multiplication, you divide.

$$\begin{array}{l} \text{Ex.) } -7y = -91 \\ \hline -7 \quad -7 \\ \hline y = 13 \end{array}$$

$$\begin{array}{l} -7(13) = -91 \\ -91 = -91 \quad \checkmark \end{array}$$

To undo division, you multiply.

$$\begin{array}{l} \text{Ex.) } -4 = \frac{a}{9} \\ \hline -36 = a \end{array}$$

$$-4 = \frac{-36}{9}$$

$$-4 = -4 \quad \checkmark$$

You Try:

$$-11 = \frac{y}{6}$$

$$24x = -96$$

$$\frac{x}{4} = -9$$

$$23 = 7x$$

## One and Two Step Equations with Fractions

To "get rid" of a fraction,  
Multiply \_\_\_\_\_ by the \_\_\_\_\_.

OR  
Multiply both sides by the denom-  
inator  
then divide.

$$\frac{2}{3}X = 10$$

$$\frac{2X}{2} = \frac{30}{2}$$

$$X = 15$$

$$\frac{2}{3}X = 10$$

$$\cancel{\frac{2}{3}} \left( \cancel{\frac{2}{3}} X \right) = \frac{10}{1} \left( \frac{3}{2} \right)$$

$$X = 30/2 = 15$$

$$\frac{4}{9}w = -8$$

$$\frac{4w}{4} = \frac{-72}{4}$$

$$w = -18$$

## Two-Step Equations

### To Solve a Two-Step Equation:

1. Undo the **Addition/Subtraction** (to remove constant term)
2. Undo the **Multiplication/Division** (to remove coefficient)

9.  $6x + 8 = 50$

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

$$\frac{6x = 42}{6 \quad 6}$$

$$x = 7$$

10.  $2n - 5 = 11$

$$\begin{array}{r} +5 \quad +5 \\ \hline \end{array}$$

$$\frac{2n = 16}{2 \quad 2}$$

$$n = 8$$

11.  $13 = -4k + 9$

12.  $7 - 3y = 34$



13.  $\frac{x}{2} - 7 = 9$

$$\frac{x}{2} - 7 + 7 = 9 + 7$$

$$\frac{x}{2} = 16$$

$$x = 32$$

14.  $11 = \frac{c}{-5} + 8$

$$11 - 8 = \frac{c}{-5} + 8 - 8$$

$$3 = \frac{c}{-5}$$

$$-15 = c$$

15.  $\frac{3}{5}x + 22 = 28$

16.  $-\frac{1}{3}m + 1 = -7$

17.  $-10 + \frac{7}{4}p = -38$

18.  $15 = 9 - \frac{1}{2}x$

Watch Out!

The examples below are different in that the multiplication/division is done FIRST, followed by the addition/subtraction.

19.  $\frac{x+11}{8} = -3$

20.  $\frac{n-5}{-2} = -7$

21.  $1 = \frac{a-13}{-6}$

22.  $4 = \frac{w+8}{9}$

1. Open <https://join.quizizz.com> in your browser
2. Enter the 6-digit game code \_\_\_\_\_, and click "Proceed"
3. Now enter your name and click "Join Game!"
4. You will get an avatar, and then see a "Start Game" button. Click it to begin!