

Bellwork Alg 2A Thursday, September 22, 2016

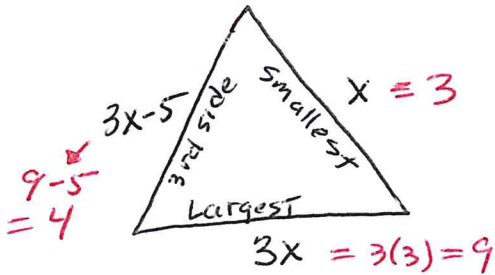
1. The perimeter of a triangle is 16. The largest side is three times the length of the smallest side. The third side is five less than the largest side. Write and solve an equation to find the lengths of the three sides of this triangle.

2. Two angles are complementary. One angle is fourteen more than three times the other angle. Write and solve an equation to find the measure of these two angles.

3. The ratio of the sides of a rectangle is 3:2. The perimeter of the rectangle is 70. Write and solve an equation to find the dimensions of this rectangle.

4. You have only nickels and dimes in your piggy bank. One day you dumped out all the coins and found out that there were 75 coins that added up to \$5.40.
Write and solve a system of equations to find the number of dimes and nickels that were in your piggy bank.

1. The perimeter of a triangle is 16. The largest side is three times the length of the smallest side. The third side is five less than the largest side. Write and solve an equation to find the lengths of the three sides of this triangle.



$$\frac{x}{1} + \frac{3x}{1} + \frac{3x-5}{1} = 16$$
$$7x - 5 = 16$$
$$\begin{array}{r} 7x - 5 = 16 \\ +5 \quad +5 \\ \hline 7x = 21 \\ \hline x = 3 \end{array}$$

3 SIDES ARE:

3, 4, 9

2. Two angles are complementary. One angle is fourteen more than three times the other angle. Write and solve an equation to find the measure of these two angles.

2 unknown L's are x & y

complementary $\rightarrow x + y = 90$

one L is 14 more

one \angle is 14 more than 3 times the other $\angle \rightarrow Y = 3x + 14$

use substitutions

$$x + (3x + 14) = 90$$

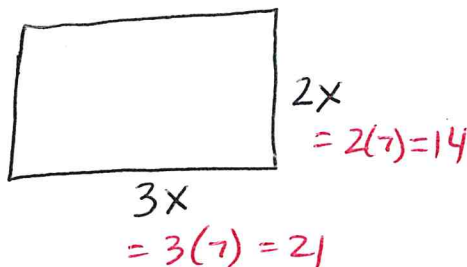
$$\begin{array}{r} 4x + 14 = 90 \\ -14 \quad -14 \\ \hline 4x = 76 \end{array}$$

$$\frac{4x}{4} = \frac{76}{4} \rightarrow y = 3(19) + 1$$

$$x = 19 \quad y = 71$$

angles are 19° & 71°

3. The ratio of the sides of a rectangle is 3:2. The perimeter of the rectangle is 70. Write and solve an equation to find the dimensions of this rectangle.



$$P = 2L + 2W$$

$$70 = 2(3x) + 2(2x)$$

$$70 = 6x + 4x$$

$$70 = 10x$$

$$x = 7$$

DIMENSIONS

 21×14

4. You have only nickels and dimes in your piggy bank. One day you dumped out all the coins and found out that there were 75 coins that added up to \$5.40.

Write and solve a system of equations to find the number of dimes and nickels that were in your piggy bank.

$N = \# \text{ of Nickels}$

$$D = \# \text{ of DIMs}$$

• 10 ($N + D = 7.5$)

$$.05N + .40D = 5.40$$

$$\begin{array}{r} .05N + .40D = 5.40 \\ - .10N + .10D = 7.5 \end{array} \quad \left. \begin{array}{l} \\ \end{array} \right\} \begin{array}{l} \text{SUBTRACT TO} \\ \text{ELIMINATE } D \end{array}$$

$$\frac{-0.05 \text{ N}}{0.05} = \frac{-2.10}{-0.05}$$

42 NICKELS

33 DIMES

$$N = 42 \rightarrow \begin{aligned} 42 + D &= 75 \\ D &= 33 \end{aligned}$$