# Algebra Quiz 12/6/19
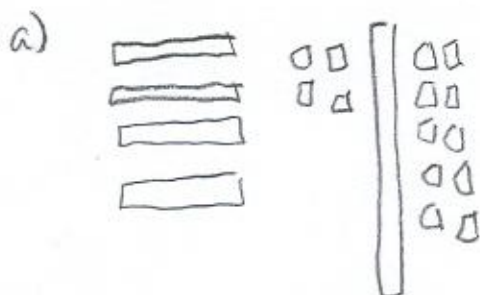
1.  You buy 4 pokemon cards from a friend, each at the same price. You give your friend a $10 bill, and he gives you $4 change.

    a.  If **x** is the cost of each sandwich, use materials to express this situation.
    b.  Write an equation describing the situation.
    c.  How much did each pokemon card cost?

a)

b) $4x + 4 = 10$

c) $4x + 4 = 10$
$\phantom{4x} -4 \quad -4$
$\overline{\phantom{4x+4=10}}$
$\dfrac{4x}{9} = \dfrac{6}{4}$

$\boxed{x = 1,50}$

2.  For each of the problems check if the x = _____ is a solution to the equation.

    a.  $3x + 1 = 16$: Is **x=4** a solution?
    b.  $5x - 1 = 4x + 4$: Is **x=5** a solution?

a) $3 \cdot \square + 1 \overset{?}{=} 16$

$3 \cdot 4 + 1 \overset{?}{=} 16$

$12 + 1 \overset{?}{=} 16$

$13 \overset{?}{=} 16$  ✗

$\boxed{No}$

b) $5 \cdot \square - 1 \overset{?}{=} 4 \cdot \square + 4$

$5 \cdot \boxed{5} - 1 \overset{?}{=} 4 \cdot \boxed{5} + 4$

$25 - 1 \overset{?}{=} 20 + 4$

$24 \overset{?}{=} 24$ ✓

$\boxed{Yes}$

3.  Solve for x:  $3x + 1 = 5x - 5$

    There are 3 goals in this work

    1.  Show the steps of solving the equation
    2.  Find your solution
    3.  **Check the solution**

3. Check $x = 3$

$3 \cdot \boxed{3} + 1 \overset{?}{=} 5 \cdot \boxed{3} - 5$

$9 + 1 \overset{?}{=} 15 - 5$

$10 \overset{?}{=} 10$  $\boxed{\checkmark}$

1. $3x + 1 = 5x - 5$
$\phantom{3x+} -3x \qquad -3x$
$\overline{\phantom{3x+1=5x-5}}$
$1 = 2x - 5$
$+5 \qquad +5$
$\overline{\phantom{1=2x-5}}$

2.

$6 = 2x$
$\div 2 \quad \div 2$
$\overline{\phantom{6=2x}}$
$\boxed{3 = x}$