Warm Up October 4, 2018

1.) Simplify: $5b - 2(7 - b)$

$5b - 14 + 2b = 7b - 14$

2.) Sydney has 8 less than 2 times the number of dolls than her sister, Dalia. Write an expression to represent the number of dolls Sydney has if x represents the number of dolls Dalia has.

$2x - 8$

3.) $\frac{3x}{2} + 2 = \frac{x}{2} + 4$

$2\left(\frac{3x}{2} + 2\right) = 2\left(\frac{x}{2} + 4\right)$

$\frac{2}{1} \cdot \frac{3x}{2} = \frac{6x}{2} = 3x$

$\frac{2}{1} \cdot \frac{x}{2} = \frac{2x}{2} = x$

$3x + 4 = x + 8$

$-x \quad -x$

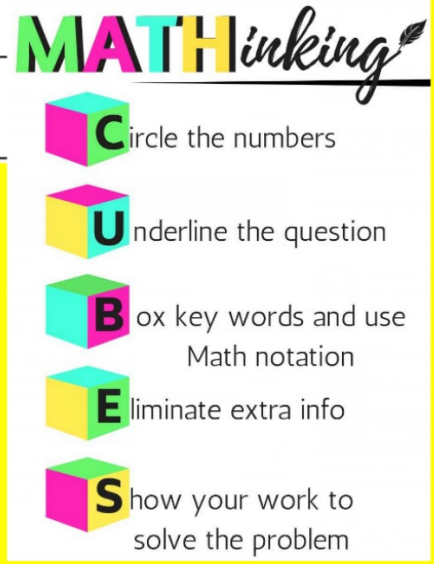
$2x + 4 = 8$

$-4 \quad -4$

$\frac{2x}{2} = \frac{4}{2}$

$x = 2$

Steps to Solving a Word Problem	
1.)	Read and annotate the problem. (CUBES)
2.)	Define the unknown(s) using a variable.
3.)	Write an equation.
4.)	Solve.



1.) 331 students ~~went on a field trip~~. Six buses and 7 students traveled in cars. How many students were on each bus?

X = # of students on each bus

54 students

$6X + 7 = 331$

$-7 \quad -7$

$6X = 324$

$\frac{6X}{6} = \frac{324}{6}$

$X = 54$

2.) You bought a magazine for $5.00 and 4 pairs of Nike socks. You spent a total of $25.00. How much was each pair of socks?

X = cost for one pair of socks

$\$5.00$

$4X + 5 = 25$

$-5 \quad -5$

$4X = 20$

$\frac{4X}{4} = \frac{20}{4}$

$X = 5$

3.) Aaliyah had $24 to spend on school supplies. She bought 7 notebooks and had $10 left. How much did each notebook cost?

X = cost of each nb

$2.00

$7X + 10 = 24$

$-10 \quad -10$

$\frac{7X}{7} = \frac{14}{7}$

$X = 2$

4.) Oceanside Bicycle Rental Shop charges $17 plus $6 per hour to rent a bicycle. Sandy paid $47 total to rent her bicycle. How many hours did she rent the bicycle?

X = # of hours

5 hours

$6X + 17 = 47$

$-17 \quad -17$

$\frac{6X}{6} = \frac{30}{6}$

$X = 5$

What is the First Page in a Geography Book?

Five less than one fourth of my age is 12.

How old am I?

$\frac{1}{4}x - 5 = 12$

using algebra to solve word problems

CUBES

type 1: Finding Two Numbers

1. The larger of two numbers is four more than the smaller number. If the sum of the numbers is 74, find the numbers.

X = smaller #

X + 4 = larger #

X + (X + 4) = 74

2X + 4 = 74

X = 35, X + 4 = 39

2. The larger of two numbers is six less than twice the smaller number. If the sum of the numbers is 42, find the numbers

X = smaller #

2X − 6 = larger #

X + (2X − 6) = 42

3X − 6 = 42

+6 +6

3X = 48

3 3

X = 16

X = 16

2X − 6 = 26

3. The larger of two numbers is seven less than three times the smaller number. If the sum of the numbers is 61, find the numbers.

4. The larger of two numbers is one more than four times the smaller number. If the sum of the numbers is 106, find the numbers.