Warm Up Solve: 10/2/18

1. $-4(2x + 3) - (x + 3) = -60$

$-8x - 12 - x - 3 = -60$

$-9x - 15 = -60$

$+15 \quad +15$

$-9x = -45$

$\frac{-9x}{-9} = \frac{-45}{-9}$

$x = 5$

2. $5x - 13 + 7 = 7x + 8 - 2x$

$5x - 6 = 5x + 8$

$-5x \quad -5x$

$-6 = 8$

$\emptyset$

3. $(6)\frac{2}{3}x - (6)\frac{1}{6} = (6)\frac{1}{2}x + \frac{5}{6}(6)$

$4x - 1 = 3x + 5$

$-3x \quad -3x$

$x - 1 = 5$

$+1 \quad +1$

$x = 6$

4. Translate and solve:

Three more than 4 times a number is negative fourty five

(+ · mult. · variable · =)

$3 + 4x = -45$

$-3 \quad -3$

$\frac{4x}{4} = \frac{-48}{4}$

$x = -12$

1 DEFINE A VARIABLE	2 SET UP EQUATION & SOLVE	3 DEFINE ANSWER
Use "LET STATEMENTS" to define your variable.	Translate into an equation using using your let statements. Then solve!	Give exactly what the problem is asking for.

Set I: 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 # 35

X+4 = larger # 39

35+4

(X) + (X+4) = 74

2X + 4 = 74

−4 −4

2X = 70

$\frac{2X}{2} = \frac{70}{2}$

X = 35

2. 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.

3. 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.

X = smaller # 21

4X+1 = larger #

4(21)+1 85

(X) + (4X+1) = 106

5X + 1 = 106

−1 −1

$\frac{5X}{5} = \frac{105}{5}$

X = 21

= + +

highest score on an Algebra test was 42 points more than the lowest. When added gether, the lowest and highest score was 154. Find both the highest and lowest score.

=lowest score 56

42=highest score 98

56+42

$(X)+(X+42)=154$

$2X+42=154$

$-42\ \ -42$

$\frac{2X}{2}=\frac{112}{2}$

$X=56$

6. Garrett has one dollar less than three times as much money as Liz has. Together they have $179. How much money does Garrett have?

7. The Buffalo Bills scored 24 more than twice the number of points that the Miami Dolphins scored. Altogether, the teams scored 66 points. How many did each team score individually?

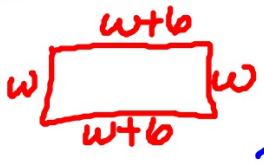
8. There are 10 less red skittles than orange skittles in the bag. The orange skittles are also twice the number of red skittles. Find the number of red and orange skittles in the bag.

Set 2: Perimeter of a Rectangle

The length of a rectangle is six inches more than its width. If the perimeter of the rectangle is 24 inches, find its dimensions.

w = width

$w+6$ = length



$4w+12=24$

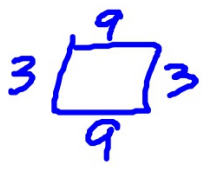
$-12\ \ -12$

$\frac{4w}{4}=\frac{12}{4}$

$w=3$ in.

width = 3 in

length = $3+6$ = 9 in



The length of a rectangle is five inches more than four times its width. If the perimeter the rectangle is 90 inches, find its dimensions.

The length of a rectangle is three centimeters less than twice its width. If the perimete the rectangle is 18 centimeters, find its dimensions.

The length of a rectangle is 7 inches more than its width. If the perimeter of the rectang is 56 inches, find its dimensions.

=

+

w=width

w+7=length

3+7

$4w+14=56$

$-14 \quad -14$

$\frac{4w}{4}=\frac{52}{4}$

width = 13 in.

length = 20 in.

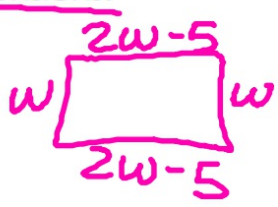
The length of a rectangle is five less than twice its width. If the perimeter of the rectang is 56 inches, find its dimensions.

−

w=width

w−5=length

2(11)−5=17



$6w-10=56$

$+10 \quad +10$

$\frac{6w}{6}=\frac{66}{6}$

width 11 in.

length 17 in.

Set 3: Consecutive Numbers

What does consecutive mean? One after another (in order)

X = 1st #

EXAMPLES		
	Consecutive Numbers x+1, x+2, x+3 . . .	5, 6, 7, 8 . . .
	Consecutive EVEN Numbers x+2, x+4, x+6 . . .	2, 4, 6, 8, 10 . . .
	Consecutive ODD Numbers	5, 7, 9, 11 . . . .

14. The sum of two consecutive numbers is 123. Find the numbers.

X = 1st # 61
X+1 = 2nd # 62

(X)+(X+1)=123
2X+1=123
-1 -1
2X=122
$\frac{2X}{2}=\frac{122}{2}$
X=61

15. If the sum of two consecutive numbers is 85, find the numbers.

16. Find two consecutive **even** numbers whose sum is 54.

X = 1st # 26
X+2 = 2nd # 28

(X)+(X+2)=54
2X+2=54
-2 -2
2X=52
$\frac{2X}{2}=\frac{52}{2}$
X=26

19. The sum of three consecutive **odd** numbers is 57. What are the three numbers?

$x = 1^{st}\#$ 17

$x+2 = 2^{nd}\#$ 19

$x+4 = 3^{rd}\#$ 21

$(x)+(x+2)+(x+4)=57$

$3x+6=57$

$-6 \quad -6$

$\frac{3x}{3} = \frac{51}{3}$ $x=17$

20. The sum of three consecutive numbers is 33 more than the smallest of the numbers. Find the numbers.

21. In cross-country, the team score is determined by the place each individual runner finishes. (For example 1st place is one point, 16th place is 16 points, etc.) In their latest meet, the boys' cross-country team scored 55 points. If there were five runners on the team and each runner finished one after another, what places did they each come in?