DO NOW

5 less than 4 times the temperature is -15.
Find the temperature.

let x = temperature

$4x - 5 = -15$

$4x = -15 + 5$

$4x = -10$

$x = \frac{-10}{4}$

$x = -\frac{5}{2}$

$x = -2.5$

The temperature is -2.5 degrees.

2.1 Word Problems

Procedure:

1. Read carefully. (Take notes, underline keywords, diagrams...)
2. Identify a variable. (let "x = ")
3. Set up an equation.
4. Solve the equation.
5. Answer and check.

***Sometimes you need to identify more than one item with the same variable

Practice:

1. 12 more than twice a number is 5 times the number. Find the number.

let x = the number

$2x + 12 = 5x$

$12 = 5x - 2x$

$12 = 3x$

$\frac{12}{3} = x$

$4 = x$

The number is 4.

2. The larger of two numbers is 7 more than 5 times the smaller. Their sum is 55. Find the numbers.

let x = smaller #

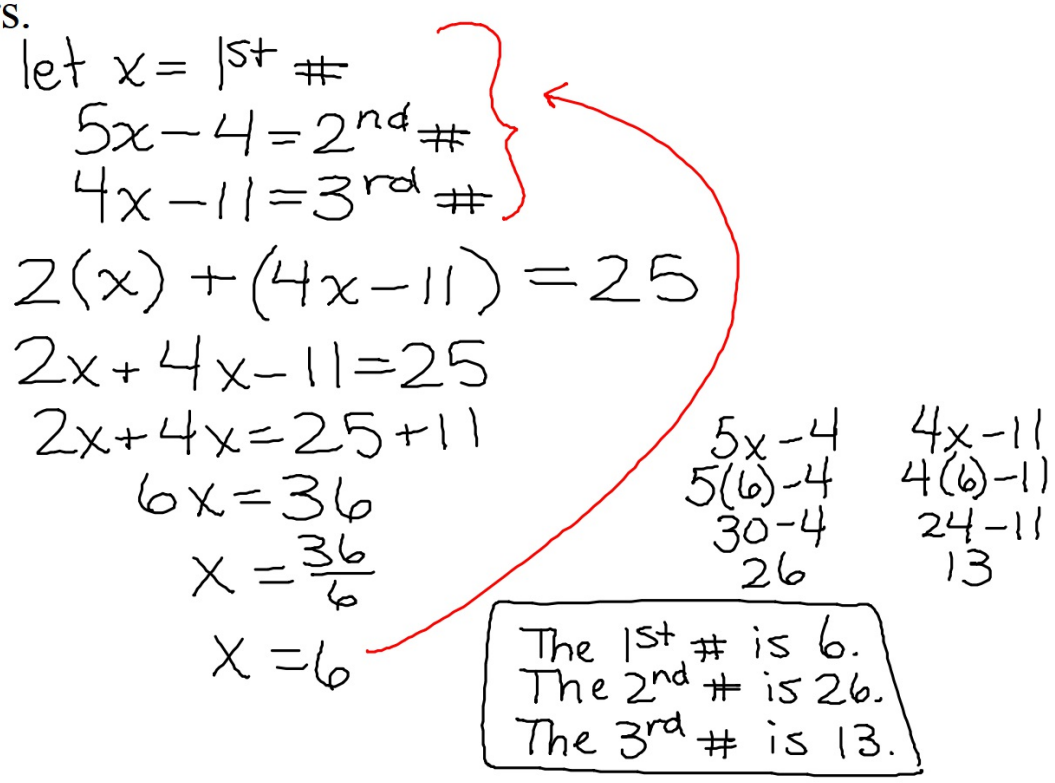
$5x + 7$ = larger #

$$x + (5x + 7) = 55$$
$$x + 5x + 7 = 55$$
$$6x + 7 = 55$$
$$6x = 55 - 7$$
$$6x = 48$$
$$x = \frac{48}{6}$$
$$x = 8$$

$5x + 7$
$5(8) + 7$
$40 + 7$
47

The first # is 8.
The larger # is 47.

3. The second of three numbers is 4 less than 5 times the first. The third is 11 less than 4 times the first. If twice the first is increased by the third, the result is 25. Find the three numbers.



4. In a game, Bert's score was twice Jose's score. Their scores added up to 90. Find each score.

let x = Jose's score
$2x$ = Bert's score

$x + 2x = 90$

$3x = 90$

$x = \frac{90}{3}$

$x = 30$

$2x$
$2(30)$
60

Jose's score is 30.
Bert's score is 60.

5. James earns $2.20 less than twice Greg's hourly wage. If James earns $16.50 per hour, what is Greg's hourly wage?

let x = Greg's hourly wage

$2x - 2.20$ = James' hourly wage

$2x - 2.20 = 16.50$

$2x = 16.50 + 2.20$

$2x = 18.70$

$x = \frac{18.70}{2}$

$x = 9.35$

Greg's hourly wage is $9.35.

HOMEWORK

Worksheet - HW 2.1- Day 5

Word Problems