

NOVEMBER 20, 2014 ^{1ST} ^{2ND}

STARTER

A boy's camp has 6 different colored cabins. One time there were 48 boys staying at the camp. Use the following information to tell how many boys were in each cabin.

The smallest cabin had 5 boys.

The yellow and green cabins are the only ones with the same number of boys.

The orange cabin is the largest and had 10 boys.

The 13 youngest boys are in the red and blue cabins with the least number of boys.

The purple cabin has 2 more boys than the blue cabin.



IRONCLAD

$$\begin{aligned} \textcircled{5} \quad & -x + 5(1 - 5x) \\ & = -x + 5 - 25x \\ & = -26x + 5 \end{aligned}$$

$$\begin{aligned} \textcircled{16} \quad & -1.4n + 0.5(n - 0.5) \\ & = -1.4n + 0.5n - 0.25 \\ & = -0.9n - 0.25 \end{aligned}$$

$$\begin{aligned} \textcircled{15} \quad & -0.6(1 - 2.7x) + 0.6 \\ & = 1.62x - \cancel{0.6} + \cancel{0.6} \\ & \frac{1.62}{1.62} = 1.62x \end{aligned}$$

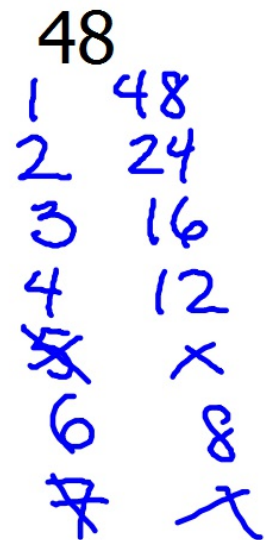
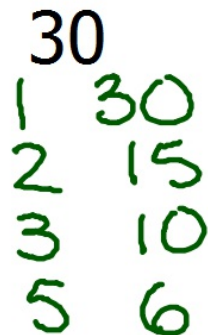
$$\begin{aligned} \textcircled{9} \quad & 2 - 5(3b + 5) \\ & = 2 - 15b - 25 \\ & = -15b - 23 \end{aligned}$$

11/20 - Factoring Out Common Factors

What are **FACTORS**?

numbers that you multiply
numbers that divide into
other numbers evenly

Name all the factors of the given numbers:



What are **Common Factors**

Factors that 2 numbers share

Find the common factors of the given number pairs:

12, 18

| | |
|----|----|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 6 |
| 6 | 9 |
| 12 | 18 |

1, 2, 3, 6

24, 40

| |
|----|
| 1 |
| 2 |
| 3 |
| 4 |
| 6 |
| 8 |
| 12 |
| 24 |

1, 2, 4, 8

30, 45

| | |
|---|----|
| 1 | 30 |
| 2 | 15 |
| 3 | 10 |
| 5 | 6 |

1, 3, 5, 15

"Factor out the common factor" assumes you use the LARGEST one that goes into both numbers.

Find the Greatest Common Factor (GCF) for each set of numbers:

32, 24

$$\text{GCF} = 8$$

18, 27

$$\text{GCF} = 9$$

48, 36

$$\text{GCF} = 12$$

Rewrite each by factoring out the GCF.

$$3b + 9$$
$$= 3(b + 3)$$

Check with
the arrows.

$$24k - 20$$
$$= 4(6k - 5)$$

$$35x + 14$$
$$= 7(5x + 2)$$

$$70x + 20$$
$$= 10(7x + 2)$$

$$\begin{array}{l} -25a + 10 \\ = -5(5a - 2) \end{array}$$

watch the
signs

$$\begin{array}{l} -4n - 6 \\ = -2(2n + 3) \end{array}$$

$$\begin{aligned} & -30n - 30 \\ & = -30(n+1) \end{aligned}$$

$$\begin{aligned} & 60 - 54n \\ & = -54n + 60 \\ & = -6(9n - 10) \\ & = 6(10 - 9n) \\ & = 6(-9n + 10) \\ & = -6(9n - 10) \end{aligned}$$

$$\begin{aligned} & -6 - 3n \\ & = -3(n+2) \end{aligned}$$

$$\begin{aligned} & \text{not} \quad 5k - 8 \\ & \text{necessary} \quad = 1(5k - 8) \\ & = 5k - 8 \end{aligned}$$

HOMework

Blue WS 4 #1-20

DUE Monday