

11-28-17

Aim: SWBAT factor an expression to look like the Distributive Property.

HW: None

Test Friday

Do Now: On WS

## HOMEWORK - SIMPLIFY EXPRESSIONS WITH RATIONAL NUMBERS

Simplify each expression.

Any problems with fractions, your final answer needs to be A FRACTION IN SIMPLEST FORM!

1)  $-5.31x + 8.3 - 4.2 - 8.07x$

$$-13.38x + 4.1$$

2)  $-20.27x - 5.2 + 3.8 + 12.51x$

$$-7.76x - 1.4$$

3)  $\frac{7}{10} - \frac{2}{5}x + 0.3 - \frac{1}{5}x$

$$-\frac{3}{5}x + 1$$

4)  $\frac{9}{12}x - \frac{3}{8} + \frac{3}{8} - \frac{1}{3}x$

$$\frac{5}{12}x$$

5)  $(0.4x + 0.3) + (\frac{1}{2} - \frac{4}{5}x)$

OR

$$-0.4x + 0.8$$

$$-\frac{2}{5}x + \frac{4}{5}$$

6)  $(\frac{1}{9}x + \frac{1}{5}) - (\frac{2}{3}x - \frac{1}{7})$

$$-\frac{5}{9}x + \frac{12}{35}$$

## HOMEWORK - SIMPLIFYING EXPRESSIONS WITH RATIONAL NUMBERS

Simplify each expression.  $\frac{1}{8} = \div 8$ 

1)  $15x + \frac{1}{8}(64x - 32) + 30$

$$\boxed{15x + 8x} - \boxed{4} + \boxed{30}$$

$$23x + 26$$

$$0.5 = \frac{1}{2} = \div 2$$

2)  $0.5(28x + 30) + 13x + 31$

$$\boxed{14x} + \boxed{15} + \boxed{13x} + \boxed{31}$$

$$27x + 46$$

3)  $20x + \frac{3}{10}(-70x + 100) + 57$  *div. by 10, then mult. by 3*

$$\boxed{20x} - \boxed{21x} + \boxed{30} + \boxed{57}$$

$$-x + 87$$

4)  $\frac{1}{5}(25x + 50) - 7x + 21$   $\frac{1}{5} = \div 5$

$$\boxed{5x} + \boxed{10} - \boxed{7x} + \boxed{21}$$

$$-2x + 31$$

5)  $-\frac{1}{4}(24x - 36) - 8x - 15$   $\frac{1}{4} = \div 4$

$$\boxed{-6x} + \boxed{9} - \boxed{8x} - \boxed{15}$$

$$-14x - 6$$

6)  $0.3(2x + 7) - 5x + 3.1$

$$\boxed{0.6x} + \boxed{2.1} - \boxed{5x} + \boxed{3.1}$$

$$-4.4x + 5.2$$

7)  $\frac{2}{3}(18x - 27) + 6x - 4$  *div. by 3, then mult. by 2*

$$\boxed{12x} - \boxed{18} + \boxed{6x} - \boxed{4}$$

$$18x - 22$$

8)  $-5x + \frac{1}{6}(60x - 36) - 9$   $\frac{1}{6} = \div 6$

$$\boxed{-5x} + \boxed{10x} - \boxed{6} - \boxed{9}$$

$$5x - 15$$

GCF : the smallest of the original values or smaller than it.

Find the GCF.

10 and 45

$$\begin{array}{r} 10 \overline{)45} \quad \times \\ 5 \overline{)45} \end{array} \quad \textcircled{5}$$

12 and 52

$$12 \overline{)52} \quad \times \quad \textcircled{4}$$

$$6 \overline{)52} \quad \times$$

$$4 \overline{)52} \quad \checkmark$$

15 and 18

$$15 \overline{)18} \quad \times$$

$$5 \overline{)18} \quad \times$$

$$3 \overline{)18} \quad \checkmark$$

$$\textcircled{3}$$

Find the GCF.

$x$  and  $x^2$

$x$

$y^2$  and  $y^3$

$y^2$

$x^4$  and  $x^2$

$x^2$

$x^2y$  and  $xy^2$

$xy$

$x^2y^2z^2$  and  $xy^2z$

$xy^2z$

$20xy$  and  $4y$

$4y$

$125x^2y^2z^2$  and  $25xyz$

$25xyz$

AIM: SWBAT factor an expression to look like the Distributive Property.

$$\frac{18 \div 3}{27 \div 3} = \frac{6 \div 3}{9 \div 3} = \frac{2}{3}$$

DO NOW:

Simplify each fraction using the Greatest Common Factor (the GCF).

1)  $\frac{15}{25} = \frac{3}{5}$

2)  $\frac{18}{27} = \frac{2}{3}$

3)  $\frac{20}{40} = \frac{1}{2}$

4)  $\frac{30}{36} = \frac{5}{6}$

GCF

GCF 9

GCF 20

GCF 6

CLASSWORK:

Factoring is the process of finding all the factors for an expression, factors are terms that multiply to give you the product.

To factor an expression, you need to first find the GCF of the terms. You will then factor out the GCF and put what is left into parentheses. You are actually using the Distributive Property backwards.

The first step to factoring is to find the GCF of the terms:

The second step to factoring is to factor out the GCF.

- First write the GCF, then begin your parentheses.
- To figure out what goes inside the parentheses, divide each term by the GCF (to find out what is left)
- Remember the final answer will look like the distributive property.

Find the GCF of each pair of terms:

Example: 10x and 20

Factors of:

10: 1, 2, 5, 10

20: 1, 2, 4, 5, 10, 20

The Greatest Common Factor that 10x and 20 have in common is 10.

Find the GCF of each pair of terms.

1) 15a and 25b

2) 9x and 27xy

3) 24y and 16

4) 13x and 9y

$$\begin{array}{l} 15 \sqrt{25} \times \\ 5 \sqrt{25} \checkmark \end{array}$$

$$9 \sqrt{27}$$

$$\begin{array}{l} 16 \sqrt{24} \times \\ 8 \sqrt{24} \checkmark \end{array}$$

$$9 \sqrt{13} \times$$

$$3 \sqrt{13} \times$$

$$\boxed{5}$$

$$\boxed{9x}$$

$$\boxed{8}$$

$$1 \sqrt{13} \checkmark$$

$$\boxed{1}$$