

11-27-18

Aim: SWBAT review.

HW: Test Tomorrow

Do Now: Packet Page 25

14)  $15a - 20b + 10c$

15)  $12ab + 18ac$

16)  $xy - 8x$

17)  $36x + 24$

18)  $14x - 16y$

19)  $30cd - 18c$

## HOMEWORK - FACTORING

FACTOR each expression. If the expression cannot be factored, write cannot be factored. When you factor an expression, your final answer should look like the Distributive Property.

20)  $\frac{mn}{n} + \frac{5n}{n}$   
GCF:  $n$

$$n(m+5)$$

21)  $\frac{12c}{12} - \frac{24d}{12}$   
GCF:  $12$

$$12(c-2d)$$

22)  $\frac{2a}{2} + \frac{8}{2}$   
GCF:  $2$

$$2(a+4)$$

23)  $\frac{-21xy}{7x} + \frac{14x}{7x}$   
GCF:  $7x$

$$7x(-3y+2)$$

24)  $\frac{3ab}{3a} + \frac{9a}{3a}$   
GCF:  $3a$

$$3a(b+3)$$

25)  $\frac{6cd}{3d} - \frac{9d}{3d}$   
GCF:  $3d$

$$3d(2c-3)$$

26)  $12x + 25y$

GCF:  $1$   
cannot  
be factored

27)  $\frac{24xy}{6x} + \frac{30x}{6x}$   
GCF:  $6x$

$$6x(4y+5)$$

28)  $\frac{42y}{6} + \frac{30}{6}$   
GCF:  $6$

$$6(7y+5)$$

29)  $\frac{40x}{20} - \frac{60}{20}$   
GCF:  $20$

$$20(2x-3)$$

30)  $\frac{100xyz}{25xy} + \frac{75xy}{25xy}$   
GCF:  $25xy$

$$25xy(4z+3)$$

31)  $4x - 7$

GCF:  $1$   
cannot be  
factored

Aim: SWBAT use properties to justify the steps when simplifying an expression.

**Do Now:**

Factor each expression. Write CANNOT BE FACTORED, if the expression cannot be factored.

- |                  |                               |                  |                             |
|------------------|-------------------------------|------------------|-----------------------------|
| 1) $3c + 6d$     | $\frac{3(c + 2d)}{\quad}$     | 2) $3ab + 7a$    | $\frac{a(3b + 7)}{\quad}$   |
| 3) $24x + 48y$   | $\frac{24(x + 2y)}{\quad}$    | 4) $4x + 18y$    | $\frac{2(2x + 9y)}{\quad}$  |
| 5) $4x + 28$     | $\frac{4(x + 7)}{\quad}$      | 6) $9x + 15$     | $\frac{3(3x + 5)}{\quad}$   |
| 7) $22xy + 26xz$ | $\frac{2x(11y + 13z)}{\quad}$ | 8) $15x + 28y$   | cannot be factored          |
| 9) $13x + 26$    | $\frac{13(x + 2)}{\quad}$     | 10) $25xy + 55x$ | $\frac{5x(5y + 11)}{\quad}$ |

<p><i>switch places</i> → <b>Commutative Property</b>  <math>x + 3 = 3 + x</math></p> <p><b>Distributive Property</b>  <math>2(x + 5) = 2x + 10</math></p>	<p><b>Associative Property</b> <i>-7 order * regrouping</i>  <math>(1 + 2) + 3 = 1 + (2 + 3)</math></p> <p><b>Combine Like Terms</b>  <math>3x + 5x = 8x</math>      <math>1 + 4 = 5</math></p>
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**CLASSWORK:**

While you might not realize it, you are using your properties (Associative, Commutative, Distributive, etc.) when you simplify an expression. It is important to understand each step and why you are allowed to do it. We call this **justifying our steps**.

Simplify the expression:  $(11k + 5) + (2k + 13)$  \* Justify each step\*

- |                         |   |
|-------------------------|---|
| $11k + 5 + 2k + 13$     | The Distributive Property   |
| $11k + 2k + 5 + 13$     | Commutative Property (allows us to switch the order of the terms)             |
| $(11k + 2k) + (5 + 13)$ | Associative Property (allows us to switch the grouping of the terms)          |
| $13k + 18$              | Combine like terms (allows us to add $11k$ and $2k$ as well as $5$ and $13$ ) |

1) The following expression is simplified below:  $4s + 5r - 3s + 4r$  \* Justify each step\*

- |                         |                             |
|-------------------------|-----------------------------|
| $4s + 5r - 3s + 4r$     | The Original Expression     |
| $4s - 3s + 5r + 4r$     | <u>Commutative Property</u> |
| $(4s - 3s) + (5r + 4r)$ | <u>Associative Property</u> |
| $s + (5r + 4r)$         | <u>Combine Like Terms</u>   |
| $s + 9r$                | <u>Combine Like Terms</u>   |

Aim: SWBAT review simplifying expressions with rational numbers and factoring.

Do Now:

Factor the following expressions.

1)  $24x + 16$

2)  $-35y + 15$

3)  $9xy + 6x$

Simplify each expression using the Distributive Property.

4)  $3(-4x + 8)$

$-12x + 24$

5)  $\frac{1}{2}(6x + 14)$

$3x + 7$

6)  $-4(4x - 5)$

$-16x + 20$

7)  $\frac{3}{5}(15x - 45)$

$9x - 27$

CLASSWORK:

Simplify each expression.

1)  $-5.2 + 8.41y - 1.3 + 4.75y$

$13.16y - 6.5$

2)  $\frac{2}{3}x - \frac{1}{2} + \frac{1}{4}x - \frac{1}{7}$

$\frac{11}{12}x - \frac{9}{14}$

3)  $\frac{1}{4}(12x - 24) - 8x - 15$

$3x - 6 - 8x - 15$   
 $-5x - 21$

4)  $0.5(-60x - 8) + 47x - 16$

$-30x - 4 + 47x - 16$   
 $17x - 20$

5)  $-15x - \frac{1}{7}(-42x + 70) - 3$

$-15x + 6x - 10 - 3$   
 $-9x - 13$

6)  $-10x - \frac{2}{3}(-12x + 6) - 12$

$-10x + 8x - 4 - 12$   
 $-2x - 16$

$$7) \frac{2}{6}x + 6 + \frac{1}{6}x - 2$$

$$\frac{1}{2}x + 4$$

$$8) \frac{1}{4}x - 10 + \frac{1}{2}x - 14$$

$$\frac{3}{4}x - 24$$

9) Find the <sup>+</sup>sum of  $(9x - 2)$  and  $(-4x - 3)$

$$(9x - 2) + (-4x - 3)$$

10) Find the result when  $(13m + 2)$  is added to  $(4m - 14)$

$$(4m - 14) + (13m + 2)$$

11) Find the <sup>-</sup>difference of  $(12x + 7)$  and  $(15x + 8)$ .

$$(12x + 7) - (15x + 8)$$

\*\*12) Find the result when  $2x + 4$  is subtracted from  $10x - 9$ .

$$(10x - 9) - (2x + 4)$$