! DAILY QUEST

Which of the following is **not** an equivalent expression for

$3x + 5y + 7y + 2x + 10 - 2y$ $x + 10y + 10$

I. $3x - 2x + 10 + 10y$

$x + 10 + 10y$

II. $x + 5y + 10 + 5y$

$x + 10y + 10$

III. $11xy + 10$

IV. $-2y + 10 + x + 12y$

$10y + 10 + x$

Homework Lesson 3.2/14.1

1. Jalen earns a base salary of $40 a day plus 20% of his sales. The expression 40 + .2s can be used to represent how much he earns.
   - What does 40 represent? base salary
   - What does 0.2 represent? 20% of his sales
   - What does s represent? amount sold in sales
   - Using the expression 40 +.2s, how much will Jalen earn if he sells $420 in merchandise?

$$40 + .2s$$
$$40 + .2(420)$$
$$40 + 84$$
$$\boxed{124}$$

Evaluate the expression $x = 3 \ and \ y = -4$
2. $6(y + 7) - 2x^2$

O

Write an equivalent expression by simplifying the problem.

3. $25b + 14 - 16b$

   $9b + 14$

4. $16x + 15 - 4x - 8$
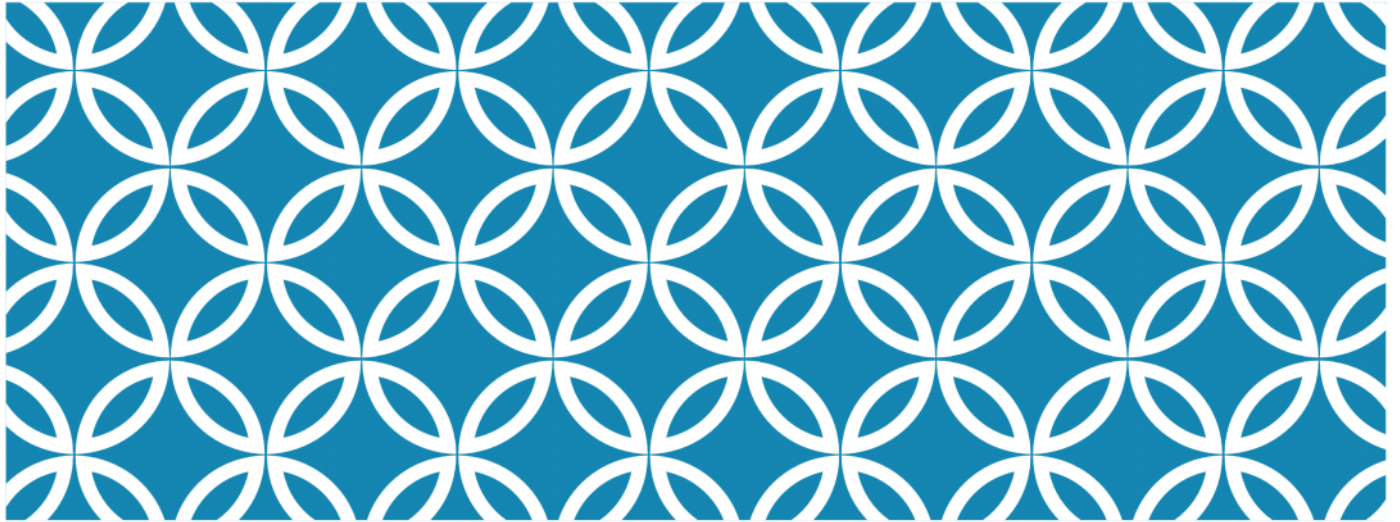
   $12x + 7$

6. $22a - 16a^2 + 27a^2 + 11a - 39$

   $33a + 11a^2 - 39$

5. $6x^2 + 9y - 12 + 4y - 3x^2$

   $3x^2 + 13y - 12$

7. $5a^2b^3 + 11a^3 + 7a^2b^3 - 3a^3 + 12 - 2a^2b^3$

   $10a^2b^3 + 8a^3 + 12$

LESSON 3.2/14.1
EQUIVALENT EXPRESSIONS
WITH DISTRIBUTIVE PROPERTY

Goal: To identify, evaluate and use operations with expressions/polynomials.

Obj: SWBAT make equivalent expressions with distributive property.

DISTRIBUTIVE PROPERTY

Basically it's multiply a value outside a set of Parentheses(Grouping symbols) to values inside the grouping symbols.

Situations

Incorrect (distributive)

$3 - (2x + 1)$

$(5x - 3) - 4$

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

What do you notice is the difference between correct and incorrect distributive property?

Correct (distributive)

$3(2x + 1)$

$(5x - 3)(-4)$

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

PROBLEM 1:

$$x^2 \cdot x^3 = x^{2+3} = x^5$$

Simplify the expression into simplest form.

Prove that each simplified expression is equivalent.

$2x^1(x^1 - 4)$

$2x^2 - 8x$
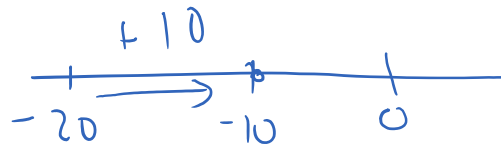
$3x^2(x^1 + 7)$

$3x^3 + 21x^2$

$5x^3(2x^4 - 6x^9)$

$10x^7 - 30x^{12}$

PROBLEM 1A:

Simplify the expression into simplest form.

Prove that each simplified expression is equivalent.

$$-5 + 2(8 - 4y)$$

$$\boxed{-5} \boxed{+ 16} - 8y$$

$$11 - 8y$$

or

$$-8y + 11$$

$$10 - 3(m + 3)$$

$$10 - 3m - 9$$

$$1 - 3m$$

or

$$-3m + 1$$

$+10$

$-20 \qquad -10 \qquad 0$

PROBLEM 1B:

Simplify the expression into simplest form.

$5(1 - 9x) + 4$

$5 - 45x + 4$

$9 - 45x$

$-2(10x + 3) + 10x$

$-20x - 6 + 10x$

$-10x - 6$

PROBLEM 1C:

Simplify the expression into simplest form.

$12 - 3(4 - x) + 4x$

$12 \quad -12 \quad + 3x \quad + 4x$

$0 + 7x$

$7x$

$-2(2x - 5) + 5x + 6$

$-4x + 10 + 5x + 6$

$x + 16$

PROBLEM 1D: CHALLENGE

Simplify the expression into simplest form.

$$4y^4 - (3y^2 + 3y^4) + y^2$$

$$\boxed{4y^4} - 3y^2 \boxed{-3y^4} + y^2$$

$$y^4 - 2y^2$$

$$-m^3 - (2n^2 - m^3) + 6n^2$$

PROBLEM 2:

Which expressions below are equivalent to $8b + 3(2b+5) - 3$

$8b + 6b +15 - 3$

I. $8b + 6b - 2$

II. $8b + 6b + 15 - 3$

III. $8b + 3(7b) - 3$

IV. $14b + 12$

$14b + 12$

PROBLEM 2A:

Which expressions below are equivalent to $6x - 5(-3 - 2x)$

$6x + 15 + 10x$

$16x + 15$

→ I. $6x + 15 + 10x$

II. $6x - 15 - 10x$

→ III. $16x + 15$

IV. $-4x - 15$

PROBLEM 2B:

Which expressions below are equivalent to $6y+9-2-8y+4y^2$

I. $2y^3 + 7$

II. $6y + 7 - 8y + 4y^2$

III. $-2y + 7 + 4y^2$

IV. $18y^3 + 7$