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Lesson 1.2- Objective: SWBAT simplify expressions by combining like terms and using the distributive property.

Kickoff- Simplify the following polynomial expressions

1) $4a^2 + a^2 - 2a$

$$5a^2 - 2a$$

2) $2x^2y + 5x - 10y - 5x^2y$

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

3) $-5x - 10x^3 + 3x^2$

$$-10x^3 + 3x^2 - 5x$$

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Distributive Property – allows us to get rid of parentheses by multiplying a number from the outside to the inside   **Be careful when multiplying with negatives!!!**

Example:

$$-3(2x+5)$$

mult:

$$-3(2x+5) = -3(2x) + -3(5)$$

$$= -6x + -15$$

When simplifying an expression, always distribute FIRST then combine like terms

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Practice: Simplify the expressions below.

1) $2(x+3) - 1$

$$2x + 6 - 1$$
$$2x + 5$$

2) $2x - (x+3) - 1$

$$2x - x - 3 - 1$$
$$x - 4$$

3) $2x + (x+3) - 1$

$$2x + 1x + 3 - 1$$
$$3x + 2$$

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4) $-3 + 7(8-2x) + 5$

$$-3 + 56 - 14x + 5$$
$$58 - 14x$$

5) $5[y - 3(y-2x)]$

$$5[y - 3y + 6x]$$
$$5y - 15y + 30x$$
$$-10y + 30x$$

6) $\frac{1}{2}(6x^2 - 8x) - x^2$

$$3x^2 - 4x - x^2$$
$$2x^2 - 4x$$

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

$$2x + 2y - 3y + 9x$$
$$11x - 1y$$

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8) $4y - 2[x - 3(x+y) - 5y]$

$$20y + 4x$$

9) $5 - (2x - 3)$

$$5 - 2x + 3$$
$$-2x + 8$$

10) $3(2x - 7) + 4x$

$$10x - 21$$

11) $2x - 3[y - 3(x - 2y + 4)]$

$$2x - 3[1y - 3x + 6y - 12]$$
$$2x - 3[7y - 3x - 12]$$
$$2x - 21y + 9y + 36$$
$$11x - 21y + 36$$

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12) $7p + 8p^3 - 4 - 5(p^3 - 2)$

$$-4 \quad +10$$
$$3p^3 + 7p + 6$$

13) $11c^5 - 9c^6 + 15c^5 - 13c^6 + 5c^6$

$$-17c^6 + 26c^5$$

14) $2d^2 - (2d^2 + 5d)$

$$2d^2 - 2d^2 - 5d$$
$$-5d$$

15) $\frac{1}{2}(2x - 10) + x - 5$

$$2x - 10$$