

Solving for x: Lesson 04

Combining Terms: Notes

Name: _____



Expand and Simplify: $5x^2 + 3a + 2x^2 + y$

$$x^2 + \underline{x^2} + \underline{x^2} + \underline{x^2} + \underline{x^2} + a + \underline{a} + \underline{a} + x^2 + \underline{x^2} + \underline{y}$$
$$= \underline{7x^2} + \underline{3a} + \underline{y}$$

Like Terms: Same variables **raised to the same** power

Like Term to $-4ab^2$ $7ab^2$

to $3x$ $-10x$

Unlike Term to $-4ab^2$ $7ab$

to $3x$ $3xy, 3x^2$

Steps in Adding and Subtracting Like Terms:

- 1) Find our like terms and group them together.
- 2) Add the coefficients of the like terms.
- 3) Make the answer pretty.

Simplify:

$$-2t^3 + 11s - s^2 + 3t^3 - 7s^2 =$$

$$t^3 - 8s^2 + 11s$$

$$7 + 36xy - 4x + 10x - 10xy + 2 =$$

$$9 + 26xy + 6x$$

$$26xy + 6x + 9$$

Multiplying variables and coefficients:

- 1) Don't worry about like terms.
- 2) Multiply all numbers together.
- 3) Multiply all variables together by adding exponents.
- 4) Make the answer pretty.

Practice:

$$-5x^2 \cdot 3a \cdot 2x^2 \cdot y \cdot a^3 = \underline{-30x^4a^4y} = \underline{-30a^4x^4y}$$

$$x^2 \cdot x^2 = \underline{x \cdot x \cdot x \cdot x} = x^4 \quad \boxed{1+3} \quad a \cdot a = \underline{a \cdot a \cdot a \cdot a} = a^4$$

$$z^{\boxed{6+5}} = z^{11}$$

$$-3a^2b^1 \cdot (-7a^6b^2c) = \underline{21a^8b^3c}$$

$$6x^2 \cdot (-4xy) + 5y^3 \cdot y - x^3y + 6y^2 \cdot 2y^2 - 2x^2 \cdot 3x^5y^2 =$$

$$\frac{-24x^3y}{-25x^3y} + \frac{5y^4}{17y^4} - \frac{x^3y}{-6x^7y^2} =$$