

Unit 1- Polynomial Expressions
Lesson 1.1- Objective: SWBAT combine like terms with fractional and decimal coefficients.

Kickoff- A polynomial is a variable expression with one or more terms.

1) What is a variable?
A letter that represents a # ex: x
binomial
 $2x+4$
 $x-x^3, x-y$

2) What is a polynomial with 1 term called? Give an example.
many terms
monomial
ex: $x, 2x, x^3, 4$

3) What is a polynomial with 2 terms called? Give an example.
binomial
 $2x+4$
 $x-x^3, x-y$

4) What is a polynomial with 3 terms called? Give an example.
trinomial
 $2x+4+y,$
 $3x+5+y,$
 x^2-2x+4

Always arrange polynomials in **descending order** arranged so that exponents of the variable decrease from left to right.
ex: $x^2 - 2x + 4$

Combine Like Terms- like terms have the same variable and exponents.

Parts of a Polynomial:

$4x^2 - 2x^3$
Coefficient Variable Exponent
in front power!

When combining like terms only change the coefficients and keep the exponents the same!
ex: $6x^2 - 3x^2 = 3x^2$

Simplify each polynomial:

1) $4x^3 + 3y^2 - 7x^2 - x^3$
 $3x^3 + 3y^2 - 7x^2$
trinomial

2) $-2a^2 + 12a^2 - 5a - a$
 $10a^2 - 6a$

3) $\frac{1}{2}x + 2xy - 3x + 5xy$
 $\star (\frac{1}{2}) - 3$
 $-2.5x + 7xy$

4) $6x^2 - \frac{2}{3}x^2 + 2y^2$
 $\star 6 - (\frac{2}{3})$
 $\frac{16}{3}x^2 + 2y^2$

5) $a^2 + 6a^2 - .4a^2$
 $6.6a^2$

6) $\frac{2}{3}y - \frac{5}{12}y + \frac{4}{9}y$
 $\frac{25}{36}y$

Partner Practice

7) $\frac{3}{8}x^3 + \frac{5}{12}x^3 - 2x^3$
 $-\frac{29}{24}x^3$

8) $-10ab + 5a + 7a - ab$
 $-11ab + 12a$

9) $-3z + 5z^2 - z^2 + 10z$
 $7z + 4z^2$

10) $5x - 8y - 12x$
 $-7x - 8y$

11) $2a + 3a$
 $5a$

12) $\frac{2}{3}x - \frac{1}{15}x + \frac{4}{3}x$
 $\frac{5}{3}x$

13) $2x^2 + \frac{7}{12}x^2$
 $\frac{31}{12}x^2$

14) $2ab^2 + 4b^2 - ab^2$
 $ab^2 + 4b^2$

$15 \boxed{x} - \boxed{.3x}$ $.7x$	$16 \boxed{\frac{1}{4}ab^2} - 5b + \boxed{\frac{1}{2}ab} + a$ $\frac{3}{4}ab^2 - 5b + a$
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