

LESSON
4-1

Understanding Polynomial Expressions

Reteach

Polynomials have special names based on the number of terms.

POLYNOMIALS				
No. of Terms	1	2	3	4 or more
Name	Monomial	Binomial	Trinomial	Polynomial

The degree of a monomial is the sum of the exponents in the monomial. The degree of a polynomial is the degree of the term with the greatest degree.

Examples

Find the degree of $8x^2y^3$.

$8x^2y^3$ The exponents are 2 and 3.

The degree of the monomial is $2 + 3 = 5$.

Find the degree of $4ab + 9a^3$.

$$\frac{4ab}{2} + \frac{9a^3}{3}$$

The degree of the binomial is 3.

Identify each polynomial. Write the degree of each expression.

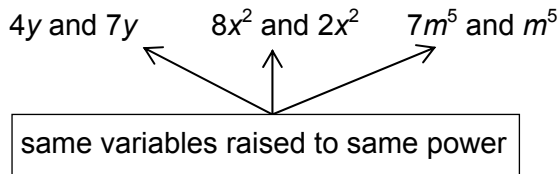
1. $7m^3n^5$

2. $4x^2y^3 + y^4 + 7$

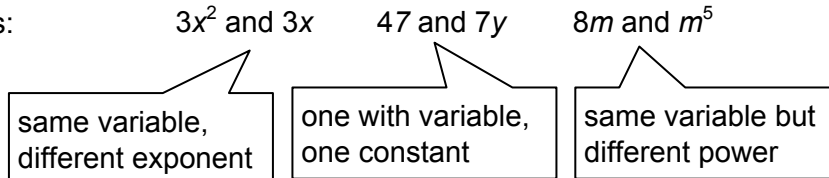
3. $x^5 - x^5y$

You can simplify polynomials by combining like terms.

The following are like terms:



The following are **not** like terms:



Examples

Add $3x^2 + 4x + 5x^2 + 6x$.

$$3x^2 + 5x^2 + \underline{4x} + \underline{6x}$$

$$8x^2 + 10x$$

Identify and rearrange like terms so they are together.

Combine like terms.

Simplify each expression.

4. $2y^2 + 3y + 7y + y^2$

5. $8m^4 + 3m - 4m^4$

6. $12x^5 + 10x^4 + 8x^4$