

A \_\_\_\_\_ is a real number, a variable, or a product of a real number and one or more variables with whole-number exponents.

Examples: 18                   $z$                    $-4x^2$                    $2.5xy^3$                    $\frac{a}{3}$

The \_\_\_\_\_ of a monomial is the sum of the \_\_\_\_\_ on its variables.

Example	Degree	Why?
$5x$		
$6x^3y^2$		
$4$		

You Try: What is the degree of the monomial?

- 1)  $8xy$                           2)  $-7y^4z^3$                           3) 11

A \_\_\_\_\_ is a monomial or a sum of monomials.

Standard form means that \_\_\_\_\_.

$$3x^4 + 5x^2 - 7x + 1$$

Simplify the expression and write in standard form.

- 4)  $6x + 12 - 2(x^2 + 3x^5 - 3)$                           5)  $-x^4 + 2 - 3x - (x^4 + 2x^3 + x^2)$

Classifying You can name a polynomial based on its degree and the number of monomials it contains.

Polynomial	Degree	Name Using Degree	Number of Terms	Name Using Number of Terms
6				
$5x + 9$				
$4x^2 + 7x + 3$				
$2x^3$				
$8x^4 - 2x^3 + 3x$				

Write the polynomial in standard form. Name the polynomial based on its degree and number of terms.

6)  $3x + 4x^2$

7)  $4x - 1 + 5x^3 + 7x$

Adding & Subtracting Polynomials

8) The number of overnight stays (in thousands) in U.S. National Park Service campgrounds and in the backcountry of the national park system over a 5-yr period can be modeled by the following polynomials:

Campgrounds:  $-7.1x^2 - 180x + 5800$

Backcountry:  $21x^2 - 140x + 1900$

What polynomial models the total number of overnight stays (in thousands) in both campgrounds and backcountry? Name the polynomial.

9) The population of a large high school can be modeled by the polynomial  $2c^2 + 7c - 1$ . The population of English Language Learners at the high school can be modeled by the polynomial  $3c^3 - c + 5$ . What polynomial can model the population that is not ELL? Name the polynomial.