

Name: _____

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Instructor: _____

Date: _____

Class Time: _____

Unit 6 Module A Notes Sections 18.1 – 18.3; 18.7

View the PowerPoint, Videos, or Textbook for Module 6A.

Vocabulary *Fill in the blanks.*

1. (Section 18.1) An expression for a power is called _____
2. (Section 18.1) We often read x^3 as _____.
3. (Section 18.2) _____ for a number is an expression of the type $M \times 10^n$, where n is an integer, $1 \leq M < 10$ and M is written as a decimal.
4. (Section 18.2) For any real number a and any integers m and n , $(a^m)^n = a^{mn}$. The previous statement represents the _____ Rule.
5. (Section 18.3) _____ have the same variable and the same exponent power.
6. (Section 18.3) The _____ is the largest of the degrees of the terms, unless it is the polynomial 0.

Problems *Show ALL steps.*

1. (Section 18.1) What is the meaning of the following?

$$5x^4$$

2. (Section 18.1) $a^0 = \underline{\hspace{2cm}}$, for any nonzero number a .

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3. Section (18.2) Simplify. Express the answer using positive exponents.

$$(-3x^2y^{-5})^{-3}$$

4. (Section 18.2) Convert the following to scientific notation.

a. 0.000517

b. 7,130,000

5. (Section 18.3) Collect like terms and simplify, writing the final answer in descending order.

$$4x^2 + 9 - 4x + x^2 - 10 + 9x^3 - x.$$

6. (Section 18.7) Complete the table below for the polynomial $4xy^3 + \frac{1}{4}w - 9z^2 - 8$.

Term	Coefficient	Degree of the Term	Degree of the Polynomial

7. (Section 18.7) Evaluate $-xy^3 + xz^4 - 9$ when $x = -2$, $y = 1$ and $z = -1$.