
Chapter 3.1

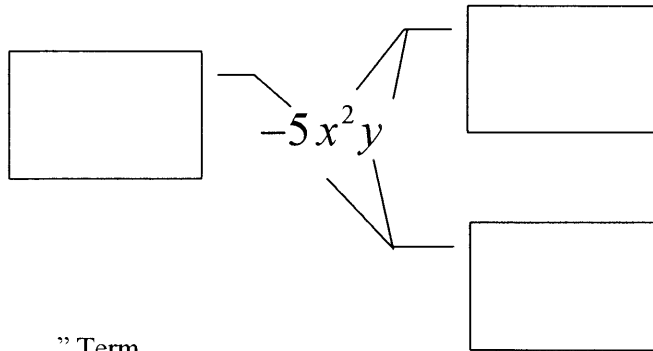
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Section 1. Terms and Numerical Expressions.

1. Define Term: _____

A Term is named for: _____

2. The “Parts” of a Term:



This is an “ _____ ” Term.

3. Practice: Write the following (1) without exponents and (2) identify the numerical coefficient.

a. $-5a^2b^3$ (1) _____ (2) _____

b. $\frac{2}{3}xy^2$ (1) _____ (2) _____

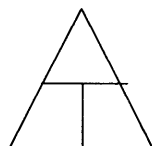
c. $.0025c^3d$ (1) _____ (2) _____

d. $81x^2y^2$ (1) _____ (2) _____

e. $36a^2cd^2$ (1) _____ (2) _____

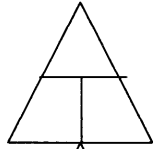
4. Some “Famous” Re-Arrangements of Basic Scientific Formulas.

a. $A = lw$



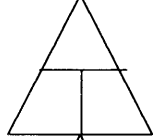
(1) for l _____ (2) for w _____

b. $pN = 1$



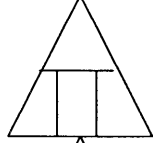
(1) for p _____ (2) for N _____

c. $d = rt$



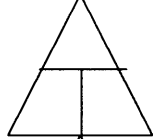
(1) for r _____ (2) for t _____

d. $I = P r t$



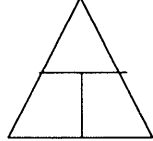
(1) for P _____ (2) for r _____

e. $V = IR$



(1) for I _____ (2) for R _____

e. $F = ma$



(1) for m _____ (2) for a _____

5. **Evaluating Expressions: Write the following expressions from the given information.**

a. A first number equals the square of a second number (x, y)

b. The total surface area of a cube equals six times the square of the length of one of its edges e. (A, e)

c. The heat H developed (per second) in a resistor in an electric circuit equals the product of the resistance R and the square of the current I in the circuit. (H, R, i).

d. The rate of emission of energy R of energy per unit area of the filament of an electric light bulb equals about 0.00002 times the fourth power of the thermodynamic temperature T of the filament (R, T).

6. Write and Evaluate the Following:

a. Find the simple interest on \$500 at an interest rate of 8% over a time period of 3 years.

b. Find the volume of a cube for which an edge is 4.3 cm.

c. The formula for the circumference of a circle is $C = 2\pi r$, and the formula for the area of a circle is $A = \pi r^2$, when $\pi = 3.142$ and r represents the radius of the circle. Find the Circumference and the Area of a circle whose radius is 30 inches.

d. One bag of fertilizer will cover 500 ft^2 of lawn. Your front lawn is approximately 105 ft by 50 ft. and your back yard is approximately 130 ft by 100 ft. How many bags of fertilizer do you need to fertilize both your front and your back yards?

Chapter 3.2

Define Algebraic Expression: _____

In an algebraic expression: _____

Define "Like Terms: _____

Examples of Algebraic Expressions:

1. The MONOMIAL: _____ Examples: _____

The BINOMIAL: _____ Examples: _____

The TRINOMIAL: _____ Examples: _____

2. The Degree of a Term: _____

The Degree of a Polynomial: _____

3. Identify the degree of the Term / Polynomial given in each example.

a. $-5x^2y$ _____

b. $4x^4 + 3x^2 - 7$ _____

c. $-\frac{5}{3}a^2b^3$ _____

d. $6x^3 + 2x^2 - 9$ _____

3. Some Single Terms are Products that include "Variable Expressions Factors"

$P = n(p - c)$ _____

$(a + b)(c - d)$ _____

$\frac{a}{b}$ where $b \neq 0$ _____

$\sqrt[n]{a} = a, \text{ where } n = a^2$ _____

Practice Problems

1. A rectangular space has a length l and a width w . Write a formula for its perimeter, which is the sum of the lengths of all 4 sides.
2. The voltage V across an electric circuit equals the current I times the resistance in the circuit. If the resistance in a certain circuit is the sum of the resistances R and r , write the formula for voltage.
3. The value V of a machine depreciates so that its value after t years is its original value p divided by the sum of t and 1. Express this statement as a formula.
4. The time T for one complete oscillation of a pendulum equals approximately 6.28 times the square root of the quotient of the length l of the pendulum and the acceleration g due to gravity. Find the resulting formula.

EVALUATE:

1. Find the perimeter in #1 if the length and width are 29.6cm and 37.8cm respectively.
2. In #2 above, find the voltage if $I = 0.00427$ A, $R = 82.6 \Omega$ and $r = 1.08\Omega$.
3. What is the value of a \$4000 machine after it has depreciated for 3 years (#3 above)
4. In #4 above, what is the time T (in seconds) if $l = 5.26$ ft and $g = 32.2 \text{ ft/sec}^2$.

Homework Section

Section(s)	Page(s)	Problem(s)
3.1	76 →78	1 → 43 Odd
3.2	82 →84	1 → 41 Odd

**NOTE: As a result of our hard work through 3 classes, we are one section ahead of schedule. This is terrific.