**Essential Math Tutorial for Chemistry: Topic 1**

**Rearranging Formulas**

Purpose: Rearrange the variables of a formula to solve for the variable of interest.

**Example 1:** A = B + C

**Solve for B:** Subtract C from both sides (since C – C = 0)
 A – C = B + C – C
 Simplifying: A-C = B. This is the same as **B = A-C**

**Example 2:** D = M/V

**Solve for M:** Cross-multiply: **M = DV**

**Solve for V:** After cross-multiplying, divide both sides by D: (since D/D = 1 on the right side).
 M/D = DV/D
 Simplifying: M/D = V. This is the same as **V = M/D**

**Example 3:** F = MA

Solve for M: Divide both sides by At

 F/A = MA/A
 Simplifying: F/A = M. This is the same as **M = F/A**

**Example 4:** d = at2/2

Solve for t: Cross-multiply: 2d = at2
 Divide both sides by a: 2d/a = at2/a
 Simplifying: 2d/a = t2. This is the same as t2 = 2d/a
 Square root both sides: (t2)1/2 = (2d/a)1/2
 Simplifying: **t = (2d/a)1/2**

**You do the following: (show all steps and circle your final answer)**

1) a = bh Solve for b

2) a2 + b2 = c2 Solve for a

3) A = s2 Solve for s

4) V = e3 Solve for e

5) A = πr2 Solve for r

6)  Solve for s

7)  Solve for r

8)  Solve for b1