Mini-Lecture 1.3

Using Formulas to Solve Problems

Learning Objectives:

- 1. Solve for a variable in a formula.
- 2. Use formulas to solve problems.

Preparing for Formulas:

Given the decimal 0.985, approximate by

- *i*) Truncating to two decimal places
- *ii)* Rounding to one decimal place

Examples:

1. Solve the formula for the indicated variable.

a)
$$V = \frac{1}{3}Bh$$
 for h b) $A = P + Prt$ for t

c)
$$A = \frac{1}{2}h(B+b)$$
 for B d) $6x - 8y = -24$ for y

- 2. **Cylinders** The surface area, *A*, of a right circular cylinder is given by the formula $A = 2\pi rh + 2\pi r^2$ where *r* is the radius of the base and h is the height of the cylinder.
 - a) Solve the formula for *h*.

b) Determine the height of a cylinder whose radius measures $\frac{3}{2}$ inches

and whose surface area is 30 in^2 . Round your answer to the nearest tenth of an inch.

3. **Angles of a Triangle** The sum of the measures of the interior angles of a triangle is 180°. The measure of the first angle is 15° less than the second. The measure of the third angle is 45° more than half of the second. Find the measure of each interior angle of the triangle.