Math 9: Unit 4 - Word Problems Name_____



# Homework #1 - Working with Formulas

Date_____ 5T____

**Solve for the indicated variable, then use that new equation to calculate the missing piece.**

1) Given the formula for the area of a triangle, $A = \frac{bh}{2}$, solve it for the height, $h$. Then, determine the height if the area is $72m^2$ and the base is $8m^2$.

2) Given the formula for the volume of a rectangular prism (a box), $V = lwh$, solve it for the width, $w$. Then, determine the height if the Volume is $540cm^3$, the length is $12cm$, and the height is $5cm$.

3) Given the formula for the converting Celsius to Farenheit, $F = \frac{9}{5}C + 32$, solve it for Celsius, $C$. Then, determine the temperature in Celsius is the temperature is $66^oF$.

4) Given the formula for calculating the avearge of two numbers, $a = \frac{n_1 + n_2}{2}$, solve it for the first number, $n_1$. Then, determine the value of that number if the avearge is 138 and the second number is 93.

5) Given the formula for calculating the distance travelled, $d = st$, solve it for the speed, $s$. Then, determine the speed if the distance travelled is $259km$ and the time is 3.5 hours. What is the unit on the speed?

6) Given the formula that I have just randomly made up, $V = T - F$, solve it for $F$. Then, determine $F$ if $V = 28.3$ and $T = 86.7$.

7) Given the Pythagorean Theorem, $a^2 + b^2 = c^2$, solve it for the side $a$. Then, determine $a$ if $b = 45$ and $c = 56$. Round your answer to one decimal place.

8) Given the volume of a cone (yum, ice cream), $V = \frac{\pi r^2 h}{3}$, solve for the height of the cone, $h$. Then, determine the height if the volume is $37.68cm^3$ and the radius is $3cm$. Don't forget the value of $\pi$!