Student Name: _____ Date: _____

Period #: _____

Unit 1: Quiz 7

Manipulation of Algebraic Expressions & Equations

1. Solve for the unknown variable (*listed under the word FIND*):

Problem #1	
$v_x = v_{x_o} + a_x t$	v_x: Velocity of the object at time ***t*** ($\frac{m}{s}$) v_{x_o}: Initial velocity of the object ($\frac{m}{s}$) a_x: Acceleration of the object ($\frac{m}{s^2}$) t: time interval in which motion occurs (s)
Given $v_{x_o} = 5\ \frac{m}{s}$ $a_x = 2\frac{m}{s^2}$ $t = 7\ s$	**Find** $v_x = ?$
Solution	
Problem #2	
$x = x_0 + v_{x_0} t + \frac{1}{2} a_x t^2$	x: Position of the object at time ***t*** (m) x_0: Initial position of the object (m) v_{x_0}: Initial velocity of the object ($\frac{m}{s}$) a_x: Acceleration of the object ($\frac{m}{s^2}$) t: time interval in which motion occurs (s)
Given $x_0 = 5\ m$ $v_{x_0} = 3\frac{m}{s}$ $a_x = 2\frac{m}{s^2}$ $t = 7\ s$	**Find** $x = ?$
Solution	

2. For each of the following equations, solve for the variable in **bold** print. Be sure to show each step you take to solve the equation for the **bold** variable.

   a. $v = \mathbf{a}t$ [Solve for **a**]

   b. $P = \frac{F}{\boldsymbol{A}}$ [Solve for **A**]

   c. $F(\boldsymbol{\Delta t}) = m\Delta v$ [Solve for $\boldsymbol{\Delta t}$]

   d. $U = \frac{G\boldsymbol{m_1}m_2}{r}$ [Solve for $\boldsymbol{m_1}$]