Dawson College: **Linear Algebra**: 201-NYC-05 S07: Winter 2010

Name: _____
Student ID: _____

Assignment 1

This assignment is graded out of 9 marks. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. Find the equation of the plane passing throught the points: $P_1(1,2,3)$, $P_2(-2,0,-1)$, $P_3(0,-1,0)$.

Question 2. Determine if the two planes are parallel: $2x+y-z=101$ and $x+2y-z=-101$.

Question 3. Determine if the two planes are perpendicular: $2x-z=101$ and $2y=-101$.

Question 4. Determine if the line and the plane are perpendicular: $(x,y,z)=(1,2,2)+t(2,-1,2)$ and $-4x+2y-4z=103$.

Question 5. Find the equation of the line passing through the given points: $P_1(8,-3,4)$ and $P_2(2,1,2)$.

Question 6. Find the equation for the line of intersection of the given planes: $-x+2y-z=3$ and $2x-y+3z=4$.

Question 7. Find the equation of the plane that passes throught the point $(2,-3,4)$ and is parallel to the plane $2x-y-z-301=0$

Question 8. Find an equation for the plane through $(3,-4,3)$ that is perpendicular to the line of intersection of the planes $2x-y+5z=1$ and $-3x+y+4z=3$.

Question 9. Find the intersection of the line $(x,y,z)=(1,2,1)+t(-2,0,1)$ and the plane $x-y+3z=6$.