NAME: _____ **Collaborators:** _____

Worksheet week 2- MAC 2313, F'17

1. Determine if the statement is true or false and give a brief justification of your answer:
If two planes intersect in a line L, then the cross product of the normal vectors of the two planes is a directional vector for line L.

2. The lines L_1 and L_2 are given by the following parametric equations:

$$L_1: \ x = 5 + 3t,\ y = 3 - 2t,\ z = -5, \qquad L_2: \ x = 2 + 9s,\ y = 5 - 6s,\ z = 3 + 8s$$

Determine if the the lines $L_1,\ L_2$ are parallel, intersect, or are skew.

3. Find the equation of the plane through the points $A(0, 1, 0)$, $B(2, 1, 3)$ that is perpendicular to the plane $2x - y + z + 1 = 0$.