

Math 181  
Fall, 2008

Name \_\_\_\_\_

Homework #19

Due Monday, December 1

No late papers accepted! No excuses!

1. Find the equation of the plane through  $P_0(2, 4, 5)$  and perpendicular to the line

$$x = 5 + t$$

$$y = 1 + 3t$$

$$z = 4t$$

2. Find parametric equations for the line through  $P(1, 2, 0)$  and  $Q(1, 1, -1)$ .

3. Find parametric equations for the line through  $(2, 4, 5)$  and perpendicular to the plane  $3x + 7y - 5z = 21$ .

4. Find the point of intersection of the lines  $x = t, y = -t + 2, z = t + 1$  and  $x = 2s + 2, y = s + 3, z = 5s + 6$ , and then find the plane determined by these lines.

5. Find the plane determined by the intersecting lines.

$$L1 : x = -1 + t, y = 2 + t, z = 1 - t$$

$$L2 : x = 1 - 4s, y = 1 + 2s, z = 2 - 2s$$

$$-\infty < t < \infty$$

$$-\infty < s < \infty$$

6. Find the point in which the line meets the plane.

$$x = 1 + 2t, y = 1 + 5t, z = 3t$$

$$x + y + z = 2$$

7. Find parametrizations for the lines in which the planes intersect.

$$3x - 6y - 2z = 3$$

$$2x + y - 2z = 2$$