Name: _____ Sort #: _____

Worksheet 3

Lines & Planes in Space MATH 2210, Fall 2018

1. Find the set of parametric equations of the line that passes through the point $(2, 3, 4)$ and is parallel to the xz-plane and the yz-plane.

2. Find the equation of the plane that passes through $(0, 0, 0)$, $(2, 0, 3)$, and $(-3, -1, 5)$.

3. Find a set of parametric equations for the line of intersection of the planes defined by

$$3x + 2y - z = 7$$
$$x - 4y + 2z = 0$$

4. Find the point of intersection of the lines given below as well as the cosine of the angle of intersection

$$x = 4t + 2, \quad y = 3, \quad z = -t + 1$$
$$x = 2s + 2, \quad y = 2s + 3, \quad z = s + 1$$