

Math 251

Name(s)*:

PaperAssign 1

Homework

Due September 6, 2017

*This homework is an exception to the general policy on group work: you may turn in one submission for up to four students. Otherwise, the usual policy applies: you may talk about the problems outside of the group, but what you write in your submission must be done solely within your group.

There are two problems; you may turn in this sheet or just work on lined paper, but be neat in any case.

- (1) Consider the plane $5x + 2y - 3z = 11$. Find a parametric (vector) equation for the plane.
Explain your method (there are at least three good methods).

- (2) Verify that the line $\mathbf{r}(t) = \langle 2, -1, 0 \rangle + t\langle 3, 2, 5 \rangle$ is parallel to the plane $4x - y - 2z = 17$. Then, find an equation of the line that is perpendicular to the given line, parallel to the given plane, and passes through $(2, -1, 0)$. **Explain** as you go.