Math 8

due Monday, February 22, 2010
Homework #7 — covers Lectures 19 & 20

INSTRUCTIONS: Collaboration on homework is encouraged. The use of computing devices is allowed on homework (but *not* on exams). Please feel free to attach extra pages if your solutions require them. A correct answer with incorrect work will be considered wrong.
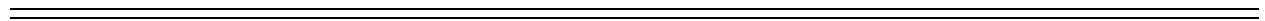
Problem	Points	Score
1	4	
2	4	
3	4	
Total	12	

1. (4) Suppose that $\mathbf{a}$ and $\mathbf{b}$ are vectors such that $\text{proj}_{\mathbf{a}} (\mathbf{a} + \mathbf{b}) = \mathbf{a}$. What can you conclude about $\mathbf{a}$ and $\mathbf{b}$?

2. (4) Find the parametric equations of the line of intersection of the two planes $x+y+z = 3$ and $x + 2y + z = 5$.

3. (4) Find the distance from the point $(1, 0, 2)$ to the plane $2x + y - z = 1$.