Name _____

Homework 5
Sections 13.3 & 13.4

1. (5) Consider the vectors $\vec{c} = 6\vec{i} - 4\vec{j} + 2\vec{k}$ and $\vec{d} = 3\vec{i} + 2\vec{j} + 7\vec{k}$. Determine the component of $\vec{c}$ that is parallel to $\vec{d}$.

2. (5) Given the vectors $\vec{v} = 5\vec{i} + 2\vec{j} + 6\vec{k}$ and $\vec{w} = 3\vec{i} + \vec{j} - 4\vec{k}$, compute $\vec{v} \times \vec{w}$.

3. (5) Determine the equation of the plane which passes through the points $(3, 2, 4)$, $(1, 5, 10)$ and $(4, -2, 5)$. Write your answer in the form $ax + by + cz = d$.

4. (5) Consider the triangle, T, whose vertices are at $(1, 3, 2)$, $(5, 4, 8)$, and $(6, 0, 10)$. Determine the area of T.