Math 173 - Quiz 2

Name _____

January 29, 2015

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (3 points) Find the area of the parallelogram determined by the vectors $\vec{u} = 3\hat{\imath} - 5\hat{\jmath} - 2\hat{k}$ and $\vec{v} = \hat{\imath} - 4\hat{\jmath} + 2\hat{k}$.

2. (2 points) Find a nonzero vector whose cross product with $\vec{w} = -\hat{\imath} - 2\hat{\jmath} + 7\hat{k}$ is the zero vector.

3. (3 points) Refer to the vectors $\vec{u}$ and $\vec{v}$ in problem #1. Find the projection of $\vec{u}$ onto $\vec{v}$.

4. (2 points) If $\vec{u}$ is a nonzero vector such that $\vec{u} \cdot \vec{v} = \vec{u} \cdot \vec{w}$, must it be true that $\vec{v} = \vec{w}$? Explain your reasoning.