

Math 173 - Quiz 1

January 22, 2015

Name _____

Score _____

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

1. (3 points) Find a vector of magnitude $\sqrt{2}$ that has the direction of $\vec{u} = 3\hat{i} - 5\hat{j} + 2\hat{k}$.
2. (3 points) Show that the points $P(1, 2, 3)$, $Q(-2, 7, 6)$, and $R(4, -3, 5)$ are not collinear.
3. (2 points) The two-dimensional vector \vec{w} has magnitude 8 and makes a 210° angle with the positive x -axis. Find the component form of $3\vec{w}$.
4. (2 points) Compute $2\vec{u} - 3\vec{v}$ if $\vec{u} = \hat{i} - \hat{j} + 7\hat{k}$ and $\vec{v} = 6\hat{i} - 10\hat{k}$.