

Math 233 - Quiz 2 (TH)

September 2, 2021

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is due September 7.

1. (2 points) Suppose \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.

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

3. (3 points) Find a vector of magnitude 5 that is orthogonal to both $\vec{a} = -2\hat{i} + 7\hat{k}$ and $\vec{b} = 4\hat{i} - 5\hat{j} + \hat{k}$.