Math 233 - Quiz 1 (IC)

Name _____

August 25, 2022

Score _____

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

1. (2 points) In component form, $\vec{v} = \langle 8, -15 \rangle$. Find the magnitude of $-3\vec{v}$.

2. (2 points) The vector $\vec{u}$ has initial point $P\,(5, -4)$ and terminal point $Q\,(-2, 3)$. The vector $\vec{w}$ has the same direction as $\vec{u}$ but has magnitude 4. Write $\vec{w}$ in component form.

Math 233 - Quiz 1 (TH)

Name _____

August 25, 2022

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is due August 30.

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1. (2 points) What is the slope of the vector $\vec{w} = 4\hat{\imath} - 3\hat{\jmath}$? Find a unit vector perpendicular to $\vec{w}$.

2. (1 point) Write the component form of the 2D vector that has magnitide 6 and makes a 210° angle with the positive x-axis.

3. (1 point) Find the unit vector whose direction is the opposite of $\vec{v} = 4\hat{\imath} + \hat{\jmath} - 2\hat{k}$.

4. (2 points) Determine the angle between the vectors $\vec{x} = 6\hat{\imath} - 5\hat{k}$ and $\vec{y} = -\hat{\imath} + 3\hat{\jmath} - 2\hat{k}$. Write your final answer in degrees, rounded to the nearest tenth.