

Math 233 - Quiz 1

January 22, 2026

Name _____

Score _____

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

1. (1 point) Find the component form of the vector with initial point $P(-3, 5)$ and terminal point $Q(-8, -4)$.
2. (2 points) Let $\vec{v} = \langle -7, 1 \rangle$. Find the magnitude of \vec{v} . Then determine a unit vector with the same direction as \vec{v} .
3. (3 points) Let $\vec{a} = \langle -1, 3 \rangle$ and $\vec{b} = \langle 4, 6 \rangle$. Compute $\|3\vec{a} - 2\vec{b}\|$.
4. (2 points) Find the component form of the vector of magnitude 5 that makes a 150° angle with the positive x -axis.
5. (2 points) Referring to the vectors shown below, sketch the vector $\frac{1}{2}\vec{v} + \vec{w}$.

