

Math 233 - Quiz 1

January 19, 2023

Name _____

Score _____

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

1. (4 points) Let \vec{u} be the vector from $P(3, -5)$ to $Q(-2, 8)$.

(a) Find the component form of \vec{u} .

(b) Compute $\|\vec{u}\|$.

(c) Find a unit vector whose direction is opposite that of \vec{u} .

(d) Compute $\|2\vec{u}\|$.

2. (2 points) Find a vector of length 5 that has the direction of $\vec{w} = \langle 2, -3 \rangle$.

3. (3 points) Let $\vec{x} = \langle 1, 2 \rangle$ and $\vec{y} = \langle -3, 7 \rangle$. Compute $\|2\vec{x} - 4\vec{y}\|$.

4. (1 point) The vector $\vec{v} = \langle -2, -4 \rangle$ has initial point $(-1, 7)$. Find its terminal point.