Instructions: Show all work. Use exact answers unless otherwise asked to round.

- 1. Use $\vec{u} = \langle 5,1 \rangle$, $\vec{v} = \langle 1,-3 \rangle$ to find the following.
 - a. Find $\vec{u} + \vec{v}$, then graph \vec{u} , \vec{v} and $\vec{u} + \vec{v}$ on the same graph.

- b. $\|\vec{u}\|$
- c. Write a unit vector in the direction of \vec{u}

- 2. Use $\vec{u} = \langle 2, -3, 1 \rangle, \vec{v} = \langle 1, 4, -5 \rangle$ to find the following.
 - a. Find $\vec{u} + \vec{v}$, then graph \vec{u} , \vec{v} and $\vec{u} \vec{v}$ on the same graph.

- b. $\|\vec{u}\|$
- c. Write a unit vector in the direction of \vec{u} .