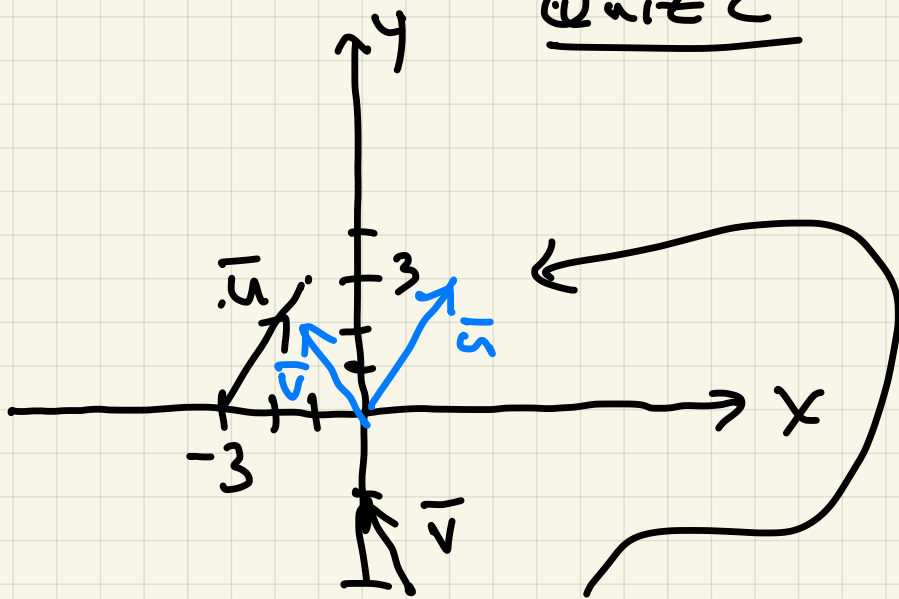


Quiz 2



#1 (a) See **blue** vectors above

(b) $\vec{u} = \langle 2, 3 \rangle$

(c) $\vec{v} = \langle -1, 2 \rangle$

(d) $\vec{u} - \vec{v} = \langle 2, 3 \rangle - \langle -1, 2 \rangle = \langle 3, 1 \rangle$

(e) $\vec{u} + 2\vec{v} = \langle 2, 3 \rangle + 2\langle -1, 2 \rangle = \langle 0, 7 \rangle$

#2 $\vec{w} = \langle -4, 3 \rangle$

(a) $|\vec{w}| = \sqrt{(-4)^2 + 3^2}$
 $= \sqrt{25} = 5$

(b) $\frac{\vec{w}}{|\vec{w}|} = \frac{\langle -4, 3 \rangle}{5} = \langle -4/5, 3/5 \rangle$

(c) $\langle -4/5, 3/5 \rangle = \langle \cos \theta, \sin \theta \rangle \Rightarrow$
 $\cos \theta = -4/5.$

