

# Advanced Math

6-3

(Day 2)

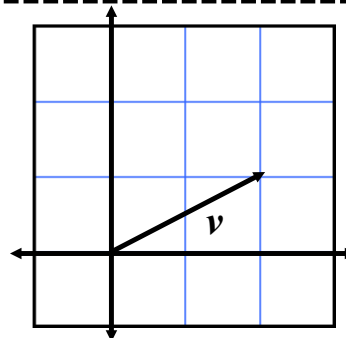
## Vectors in a Plane

---

General unit vector -

Trig form of a vector -

Write the trig form of  $\mathbf{v}$  at the right.



Find a unit vector in the direction of the given vector.

(pg. 541)

\*)  $\mathbf{w} = \langle 3, 4 \rangle$

Find the vector  $\mathbf{v}$  with the given magnitude and the same direction as  $\mathbf{u}$ .

\*)  $\|\mathbf{v}\| = 12, \mathbf{u} = -2\mathbf{i} - 5\mathbf{j}$

Find the magnitude and direction angle of  $\mathbf{v}$ .

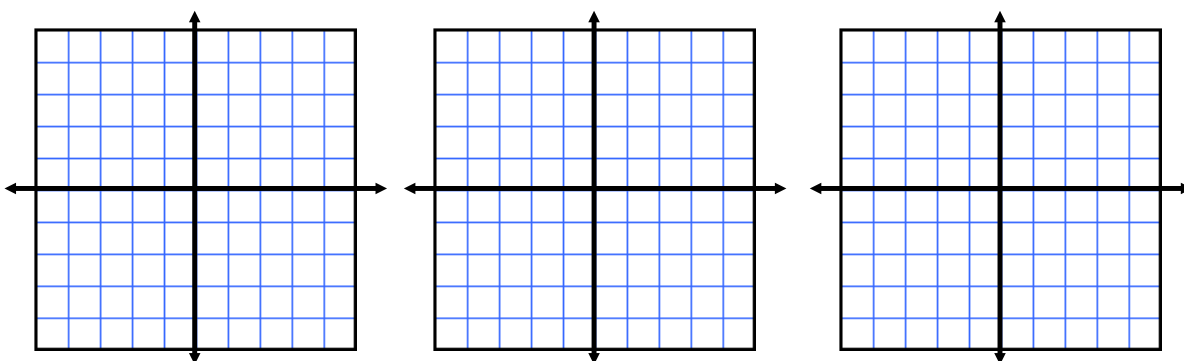
\*)  $\mathbf{v} = 4(\cos 42^\circ\mathbf{i} + \sin 42^\circ\mathbf{j})$

Find the resultant force acting upon an object given:

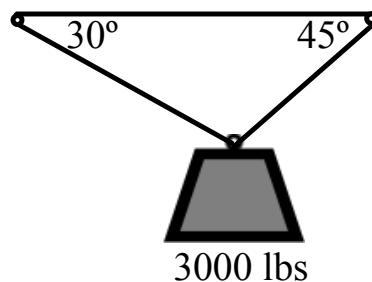
Force 1: 300N at S35°E

Force 2: 125N at S75°W

Force 3: 275N at N15°E



An object is stationary if the resultant forces acting upon it =  $\mathbf{0}$ . If a weight is suspended as shown, how much tension is in each supporting cable?



Assignment: pg. 540 25-36 all, 43-58 all, 68-80 all.
--