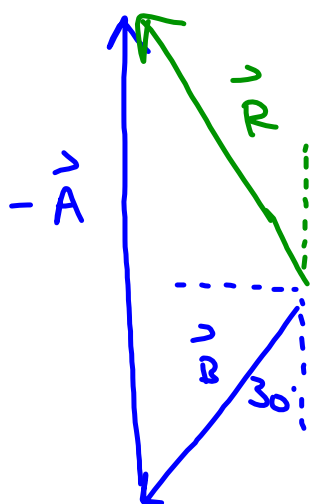


TEST THURSDAY

- Scalar vs. vector
- Distance + displacement
- Vector addition
 - ↳ graphical
 - ↳ algebraic

QUIZ

1.a)



17.5 m [N 17° W]

[S 30° W]

1.b)

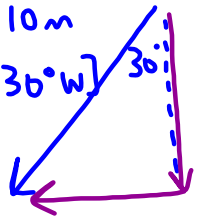


$$\vec{A} = 25 \text{ m [S]}$$

$$\vec{A} = (0, -25)$$

$$\vec{B} = 10 \text{ m}$$

$$[S 30^\circ W]$$



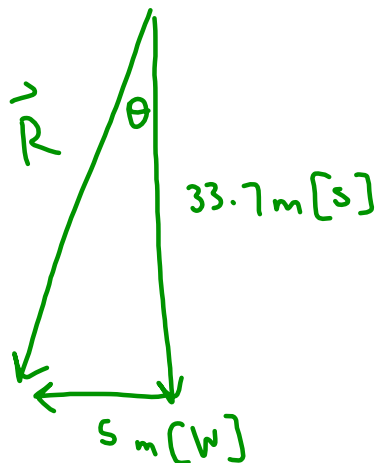
$$B_y = 10 \cos 30^\circ = 8.7 \text{ m [S]}$$

$$\vec{B} = (-5, -8.7)$$

$$B_x = 10 \sin 30^\circ = 5 \text{ m [W]}$$

$$\vec{R} = (0, -25) + (-5, -8.7)$$

$$= (-5, -33.7)$$



$$R = \sqrt{33.7^2 + 5^2} = 34.5$$

$$\tan \theta = \frac{5}{33.7}$$

$$\theta = \tan^{-1} \left(\frac{5}{33.7} \right) = 8.5^\circ$$

$$\vec{R} = 34.5 \text{ m [S } 8.5^\circ \text{ W]}$$