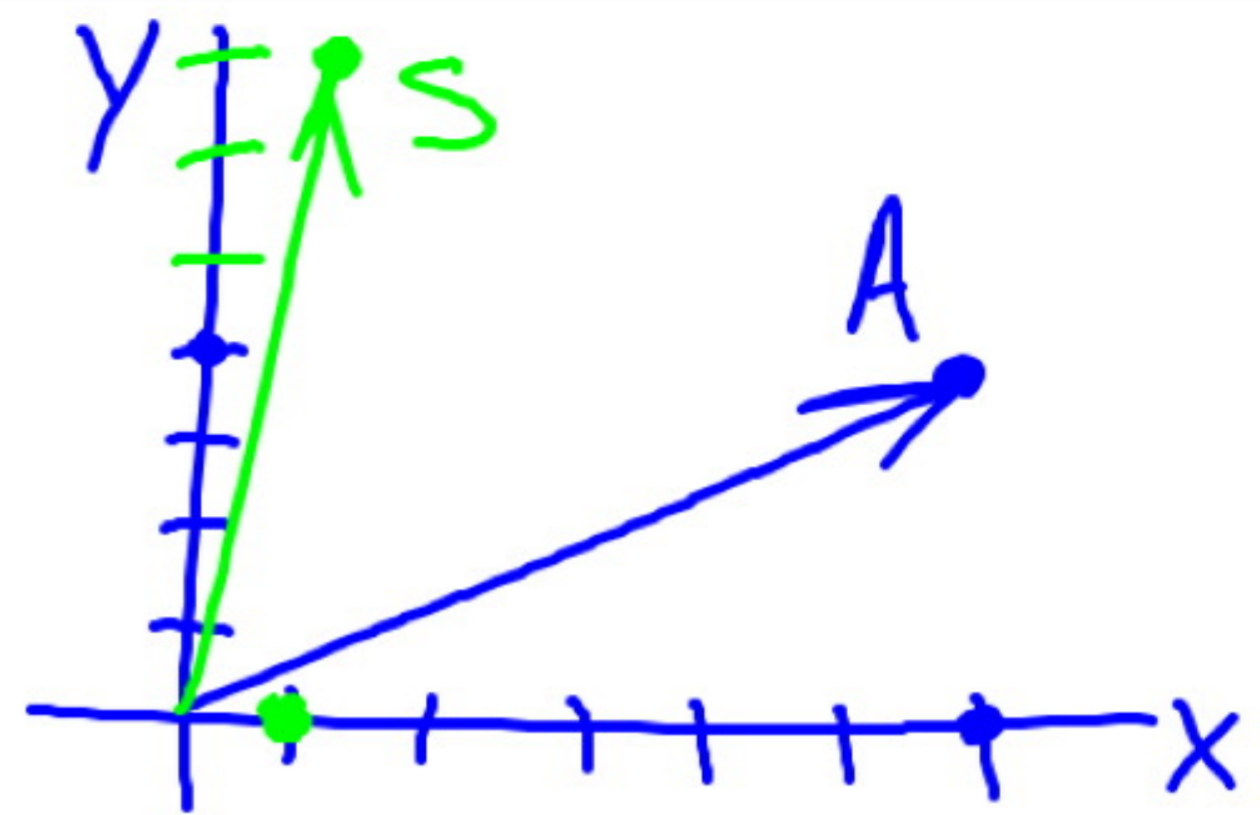
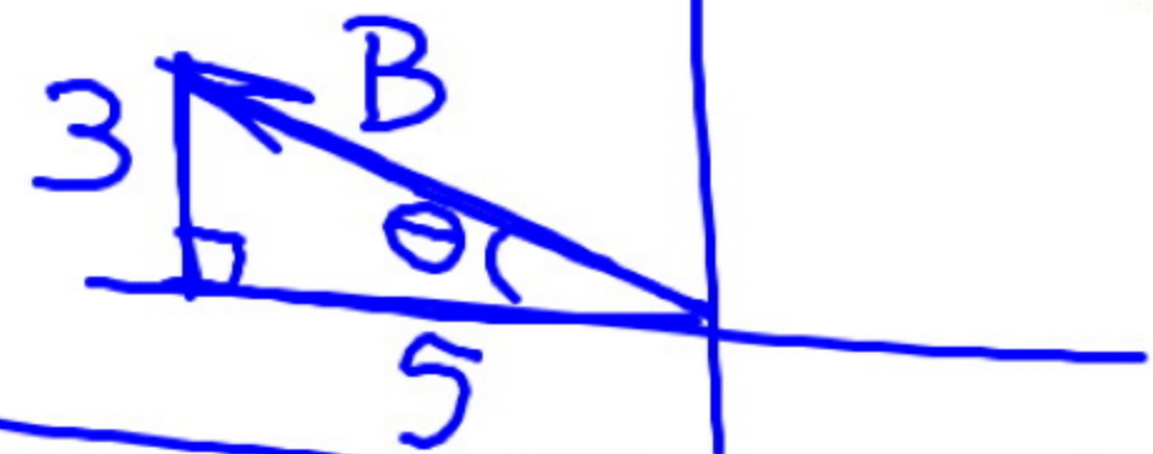


$A = x(6) + y(4)$; $B = -5x + 3y$
 $C = 50 \angle 30^\circ$; $D = 30 \angle 50^\circ$


1. Sketch vector **A**.
2. Sketch $A + B = S$, where **S** is the vector sum of **A** & **B**.



3. $A + B = x(1) + y(7)$
4. $B - A = x(-11) + y(-1)$



5. Find B in magnitude angle form:

6. $C + D =$


$$x = 50 \cos 30 + 30 \cos 50 = 62.5$$

$$y = 50 \sin 30 + 30 \sin 50 = 47.5$$

$$\sqrt{5^2 + 3^2} = 5.83$$

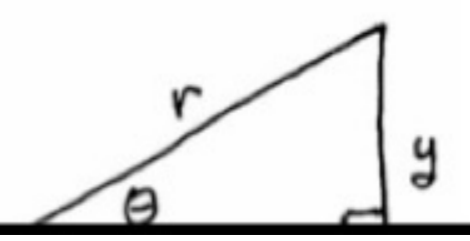
$$\theta = \tan^{-1}\left(\frac{3}{5}\right) = 30.9^\circ$$

$$\sin \theta = \frac{O}{H}$$

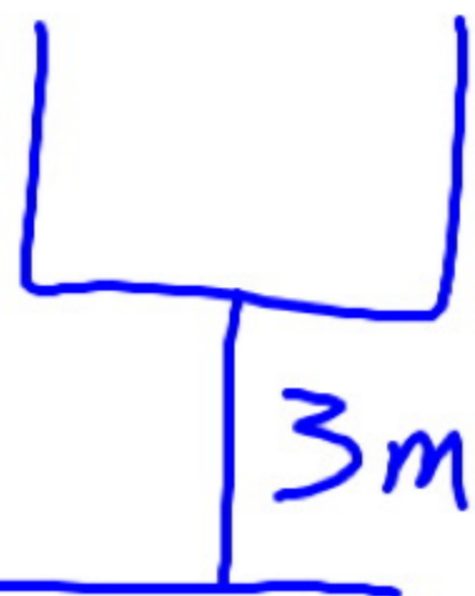
$$\cos \theta = \frac{A}{H}$$

$$\tan \theta = \frac{O}{A}$$

7. The right triangle shown has the y value of 9 and $\theta = 20^\circ$. Find lengths of side x and the hypotenuse.
 side x = _____, hypotenuse = _____



45 m/s
30°



30m

$$x = v_{ox}t + \frac{1}{2}a_x t^2$$

$$30 = 38.9t$$

$$t = 0.7s$$

X

$$x = 30m$$

$$v_{ox} = 45 \cos 30^\circ$$

$$a_x = 0 \text{ m/s}^2$$

$$0.7s \quad t$$

Y

$$y = ?$$

$$v_{oy} = 45 \sin 30^\circ$$

$$a_y = -9.8 \text{ m/s}^2$$

$$0.7s$$

$$y = v_{oy}t + \frac{1}{2}a_y t^2$$

$$22.5(0.7) + \frac{1}{2}(-9.8)(0.7^2)$$

$$y = 13.3 \text{ m}$$