

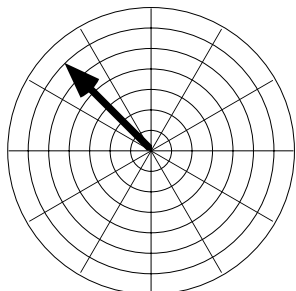
# PhyzJob: New Year's Resolutions

## From Polar to Rectangular Coordinates

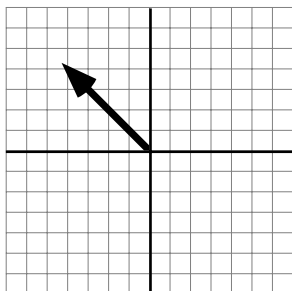


1. Draw the vectors given on the polar graph (left).
2. Convert the polar components to rectangular components.
3. Draw the vector on the rectangular graph (right).

Ex.



$$\mathbf{w} = (6\text{m}; 135^\circ)$$



$$\mathbf{w} = (-4.2\text{m}, 4.2\text{m})$$

$$w_x = w \cdot \cos \theta$$

$$w_x = 6\text{m} \cdot \cos 135^\circ$$

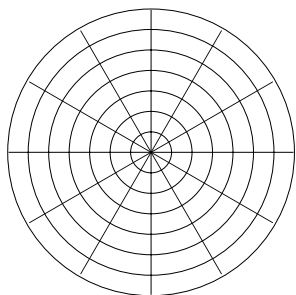
$$w_x = -4.2\text{m}$$

$$w_y = w \cdot \sin \theta$$

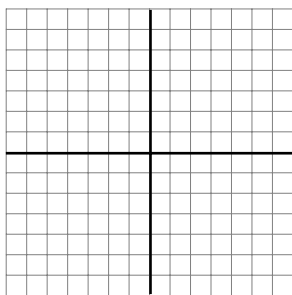
$$w_y = 6\text{m} \cdot \sin 135^\circ$$

$$w_y = 4.2\text{m}$$

1.

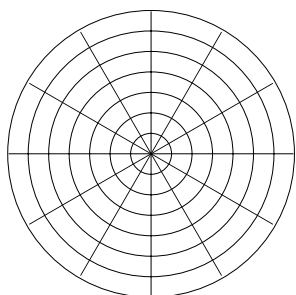


$$\mathbf{x} = (5\text{m}; 53^\circ)$$

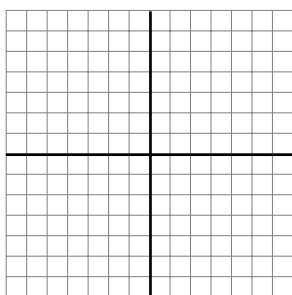


$$\mathbf{x} =$$

2.

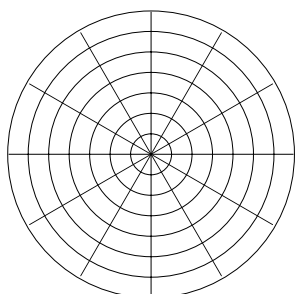


$$\mathbf{y} = (7\text{m}; 300^\circ)$$

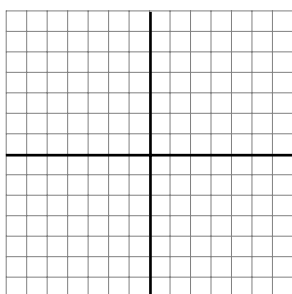


$$\mathbf{y} =$$

3.



$$\mathbf{z} = (4\text{m}; 210^\circ)$$



$$\mathbf{z} =$$