



Mi Universidad

probleuario

Nombre del Alumno...Emiliano Almaraz Tejada

Nombre del tema ...vectores

Parcial ...segundo

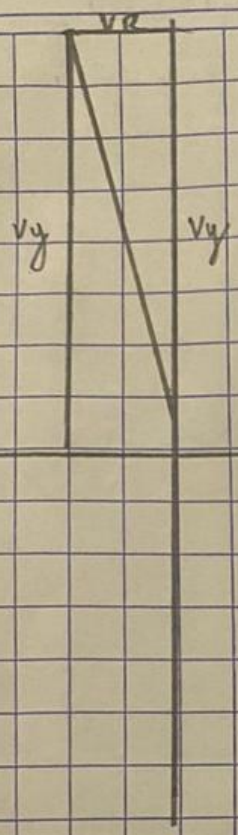
Nombre de la Materia ...fisica

Nombre del profesor...juan jose Ojeda trujillo

Nombre de la Licenciatura...bachillerato en recursos humanos

Cuatrimestre...cuarto

1



(R) $V = 5 \text{ cm}$
(Ø) Angulo = 100°

1 Pasar a radianes
 $\theta_{\text{rad}} = \theta_{\text{deg}} \times \left(\frac{\pi}{180}\right)$
 $\theta_{\text{rad}} = 100^\circ \times \frac{\pi}{180} = 1.745 \text{ rad.}$

2: Calcular la componente en x
 $x = v \cdot \cos(\theta_{\text{rad}})$

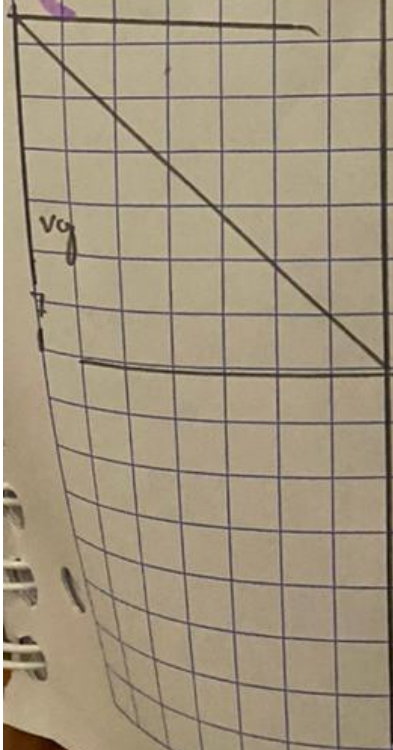
$x = 5 \cdot \cos(1.745) = -0.87 \text{ cm}$
 $x = 0.87 \text{ cm}$

4: Resultado.
 $x = 0.87 \text{ cm}$
 $y = 4.92 \text{ cm}$

3: Calcular la componente en y
 $y = v \cdot \sin(\theta_{\text{rad}})$

$y = 5 \cdot \sin(1.745) = 4.92 \text{ cm}$
 $y = 4.92 \text{ cm}$

2



(R) $V = 20 \text{ cm}$
(Ø) Angulo = 150°

1 Pasar a Radianes
 $\theta_{\text{rad}} = \theta_{\text{deg}} \times \left(\frac{\pi}{180}\right)$
 $\theta_{\text{rad}} = 150^\circ \times \frac{\pi}{180} = 2.618 \text{ rad.}$

2 Calcular X
 $x = v \cdot \cos(\theta)$

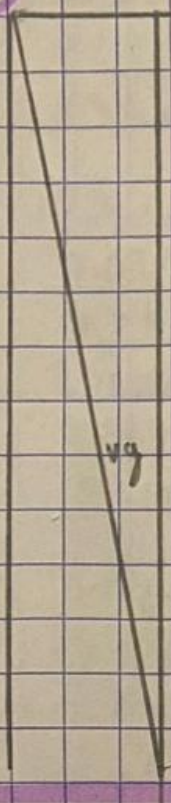
$x = 20 \cdot \cos(2.618) = 17.32 \text{ cm}$

3 Calcular y
 $y = v \cdot \sin(\theta)$

$y = 20 \cdot \sin(2.618) = 10 \text{ cm}$

4 Resultado
 $x = 17.32 \text{ cm}$
 $y = 10 \text{ cm}$
 Vx

3



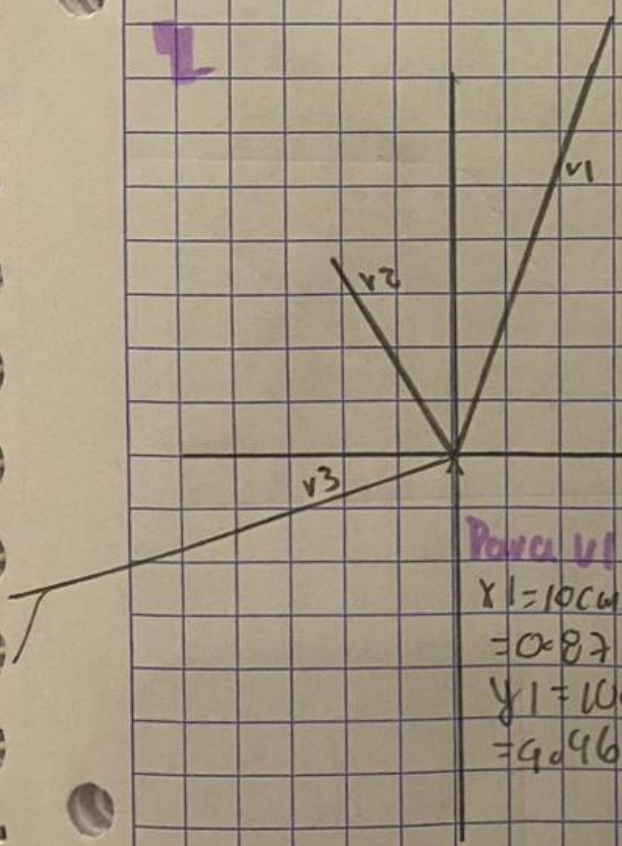
(1) $v = 25 \text{ cm}$
 (2) Angulo = 200°
 1 Convertir a radianes
 $\theta_{\text{rad}} = \theta_{\text{deg}} \times \left(\frac{\pi}{180}\right) \text{ Vx}$
 $\theta = 200 \times \frac{\pi}{180} = 4.886 \text{ rad}$

2: Calcular X
 $x = v \cdot \cos(\theta_{\text{rad}})$
 $x = 25 \cdot \cos(4.886) = -4.34 \text{ cm}$

3: Calcular Y
 $y = v \cdot \sin(\theta_{\text{rad}})$
 $y = 25 \cdot \sin(4.886) = -24.67 \text{ cm}$

4: Resultados
 $x = -4.34 \text{ cm}$ $y = -24.67 \text{ cm}$

4



$v_1 = 10 \text{ cm}$ $\theta_1 = 85^\circ$
 $v_2 = 5 \text{ cm}$ $\theta_2 = 110^\circ$
 $v_3 = 8 \text{ cm}$ $\theta_3 = 200^\circ$

1 Sumar todos los X
 $0.87 + 1.71 + 2.73 = -8.34$

2 Sumar todos los Y
 $9.96 + 4.69 + 2.73 = 11.92$

3 Calcular la magnitud
 $x = -8.34 \text{ cm}$ $y = 11.92$

Para v_1

$$x_1 = 10 \text{ cm} \cos(85^\circ) = 0.87$$

$$y_1 = 10 \text{ cm} \sin(85^\circ) = 9.96$$

$$x_2 = (-8.36)$$

$$y_2 = (11.92)$$

$$69.91 + 142.13 = 212.04$$

$$\sqrt{212.04} = 14.56 \text{ cm}$$

$V_1 = 10 \text{ cm } \theta_1 = 45^\circ$
 $V_2 = 15 \text{ cm } \theta_2 = 100^\circ$
 $V_3 = 8 \text{ cm } \theta_3 = 210^\circ$

Resultado:

1) Suma x $v = 18.19 \text{ cm}$
 $7.071 - 5.1513 + 15 \quad \theta = 97.86^\circ$
 $x = 4.01$

2) Suma y
 $7.07 + 10.63 = 17.70 \text{ cm}$
 $y = 17.50$

3) Calcular Magnitud

$x^2 = (-4.01)^2 = 16.08$
 $y^2 = (17.70)^2 = 313.29$

4) Sacar la Raiz

$\sqrt{329.37} = 18.14 \text{ cm}$

V_1
 $x_1 = 7.07 \text{ cm}$
 $y_1 = 7.07 \text{ cm}$
 V_2
 $x_2 = 5.15 \text{ cm}$
 $y_2 = 10.63 \text{ cm}$
 V_3
 $x_3 = -6.93 \text{ cm}$
 $y_3 = -4.06 \text{ cm}$

6) Sumar los x

$x_1 = 10 \cdot (\cos 45^\circ) = 7.071 = 7.07 \text{ cm}$

Sumar los y

$7.07 - 4.70 = 2.37 \text{ cm}$

Sacar la Raiz Cuadrada

$11.1715.62 = 87.74$

$\sqrt{87.74} = 9.36 \text{ cm}$

Calcular Magnitud

$(8.78)^2 = 76.88$
 $(2.37)^2 = 5.62$

Resultado

$x = 8.78 \text{ cm}$
 $y = 2.37 \text{ cm}$
 $R = 9.04 \text{ cm}$