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Materia: fisica

Grado: 4

Grupo: A



$$5 \cos 100$$

$$V_x = -0.86$$

$$V_y = 5 \sin 100$$

$$V_y = 4.92$$

$$V_x = 20 \cos 150$$

$$V_x = -17.32$$

$$V_y = 20 \sin 150$$

$$V_y = 10$$

$$V_x = 25 \cos 780$$

$$V_x = 4.34$$

$$V_y = 25 \sin 780$$

$$V_y = -24.62$$

$$V_1 = 10 \text{ cm } 85^\circ$$

$$V_2 = 5 \text{ cm } 110^\circ$$

$$V_3 = 8 \text{ cm } 200^\circ$$

$$V_{1x} = 10 \cos 85^\circ$$

$$V_{1x} = 0.87$$

$$V_{1y} = 10 \sin 85^\circ$$

$$V_{1y} = 9.96$$

$$V_{2x} = 5 \cos 110^\circ$$

$$V_{2x} = -1.71$$

$$V_{2y} = 5 \sin 110^\circ$$

$$V_{2y} = 4.69$$

$$V_{3x} = 8 \cos 200^\circ$$

$$V_{3x} = -7.51$$

$$V_{3y} = 8 \sin 200^\circ$$

$$V_{3y} = -2.73$$

$$\Sigma V_{ix} + V_{2x} + V_{3x}$$

$$V_{ix} = 0.87 + (-1.71) + (-7.51)$$

$$V_{ix} = -8.35$$

$$\Sigma V_{iy} = 9.96 + 4.69 + (-2.73)$$

$$V_{iy} = 11.92$$

$$V_R = \sqrt{(-8.35)^2 + (11.92)^2}$$

$$V_R = 14.98$$

$$\text{WR TAN } \theta = \frac{V_{iy}}{V_{ix}} = \frac{11.92}{-8.35}$$

$$V_R = 54.98$$

$$\begin{aligned}
 V_1 &= 10 \text{ cm } 45^\circ & V_{1x} &= 10 \cos 45 & V_{1y} &= 10 \sin 45 \\
 V_2 &= 15 \text{ cm } 110^\circ & V_{2x} &= 15 \cos 110 & V_{2y} &= 15 \sin 110 \\
 V_3 &= 8 \text{ cm } 210^\circ & V_{3x} &= 8 \cos 210 & V_{3y} &= 8 \sin 210
 \end{aligned}$$

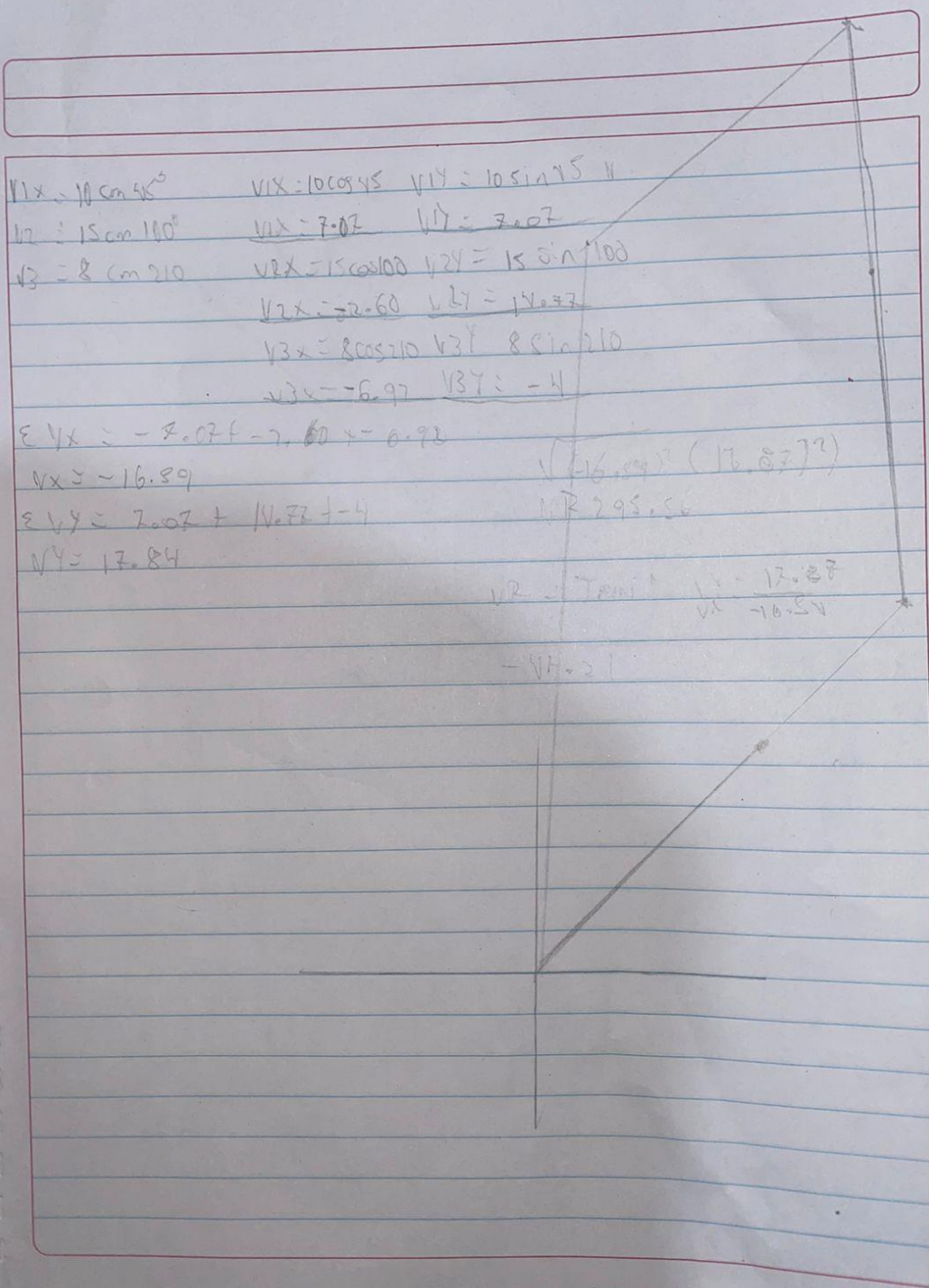
$$\begin{aligned}
 \Sigma V_x &= -8.07 + -7.60 + -0.92 \\
 V_x &= -16.59 \\
 \Sigma V_y &= 7.07 + 11.73 + -4 \\
 V_y &= 17.84
 \end{aligned}$$

$$\sqrt{(-16.59)^2 + (17.84)^2}$$

$$\sqrt{295.56}$$

$$V_R = \tan^{-1} \frac{V_y}{V_x} = \tan^{-1} \frac{17.84}{-16.59}$$

$$-44.51^\circ$$



$$v_1 = 10 \text{ m/s} \quad v_2 = 5 \text{ cm/s}$$

$$v_{1x} = 10 \cos 45$$

$$v_{1x} = 7.07$$

$$v_{1y} = 10 \sin 45$$

$$v_{1y} = 7.07$$

$$v_{2x} = 5 \cos 110$$

$$v_{2x} = -1.71$$

$$v_{2y} = 5 \sin 110$$

$$v_{2y} = 4.69$$

$$v_x = 7.07 + (-1.71)$$

$$v_x = 5.36$$

$$v_y = 7.07 + 4.69$$

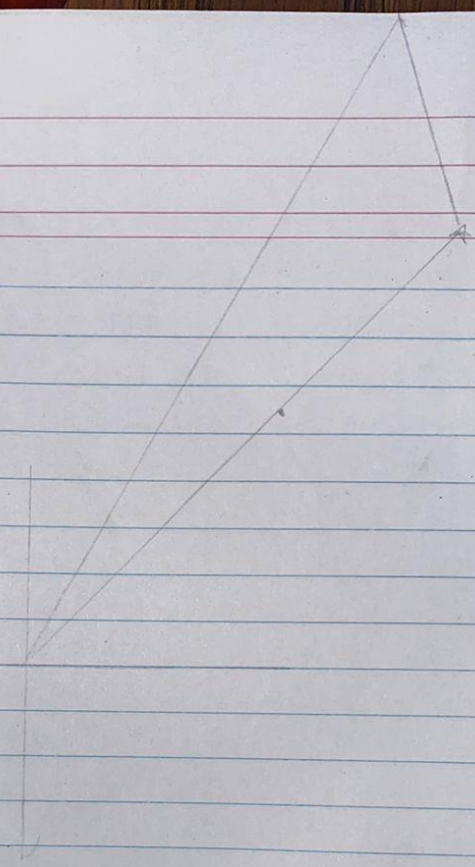
$$v_y = 11.76$$

$$\sqrt{(5.36)^2 + (11.76)^2}$$

12.93

$$\theta = \tan^{-1} \frac{v_y}{v_x} = \frac{11.76}{5.36}$$

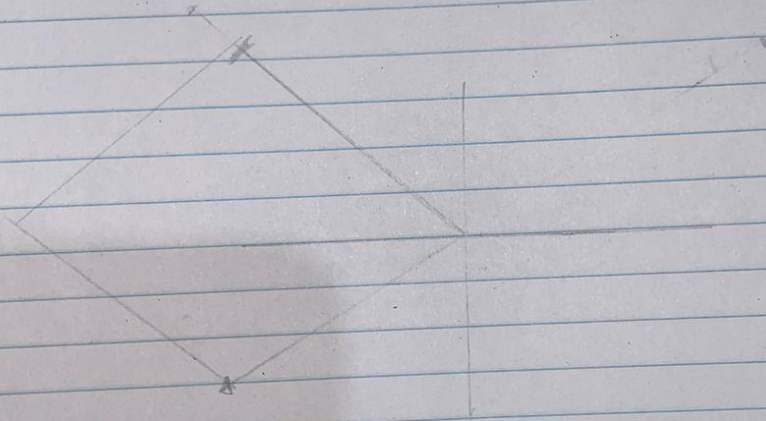
65.49



$$V_R = V_2 - V_1$$

$$V_1 = 5 \text{ cm } 30^\circ$$

$$V_2 = 8 \text{ cm } 150^\circ$$



$$V_{1x} = 5 \cos 210$$

$$V_{1x} = -4.33$$

$$V_{1y} = 5 \sin 210$$

$$V_{1y} = -2.5$$

$$V_{2x} = 8 \cos 150$$

$$V_{2x} = -4.33$$

$$V_{2y} = 8 \sin 150$$

$$V_{2y} = 2.5$$

$$V_x = -4.33 + -4.33$$

$$V_x = -8.66$$

$$V_y = -2.5 + 2.5$$

$$V_y = 0$$

$$\sqrt{(-8.66)^2 + (0)^2}$$

$$V_R = 0$$

$$\tan^{-1} \frac{y}{x} = \frac{0}{-8.66}$$

$$V_R = 0$$