

$$\begin{aligned}
 -\frac{1}{2}x + \frac{3}{4} - \frac{7}{2}y - \frac{7}{4} &= 0 \\
 -\frac{1}{2}x - \frac{7}{2}y - \frac{6}{4} &= 0 \quad / \cdot 2 \\
 -x - 7y - 3 &= 0 \quad / \cdot (-1) \\
 \underline{x + 7y + 3 = 0}
 \end{aligned}$$

2. h_2 ... la hauteur issue du point C

$$\vec{CB} = (-5, -3)$$

$$\begin{aligned}
 C \in h_2 : -5x - 3y + z &= 0 \\
 -5 \cdot 1 - 3 \cdot (-4) + z &= 0 \\
 -5 + 12 + z &= 0 \\
 7 + z &= 0 \\
 z &= -7
 \end{aligned}$$

$$\begin{aligned}
 -5x - 3y - 7 &= 0 \quad / \cdot (-1) \\
 \underline{5x + 3y + 7 = 0}
 \end{aligned}$$

3. $x + 9y + 3 = 0$

$$5x + 3y + 7 = 0 \quad / \cdot (-3)$$

$$-15x - 9y - 21 = 0$$

$$\underline{x + 9y + 3 = 0}$$

$$-14x - 18 = 0$$

$$-14x = 18$$

$$x = -\frac{18}{14} = -\frac{9}{7}$$

$$x + 9y + 3 = 0$$

$$-\frac{9}{7} + 9y + 3 = 0$$

$$-\frac{9}{7} + \frac{21}{7} + 9y = 0$$

$$+9y = -\frac{12}{7}$$

$$y = -\frac{12}{7} \cdot \frac{1}{9} = -\frac{4}{21}$$

$$\underline{P\left(-\frac{9}{7}, -\frac{4}{21}\right)}$$

4. $m_1(1, 9)$

$m_2(5, 3)$

$$\cos \varphi = \frac{|1 \cdot 5 + 9 \cdot 3|}{\sqrt{1^2 + 9^2} \cdot \sqrt{5^2 + 3^2}} = \frac{32}{\sqrt{82} \cdot \sqrt{34}} = \frac{32}{2\sqrt{697}}$$

$$\underline{\varphi = 52,7^\circ}$$