

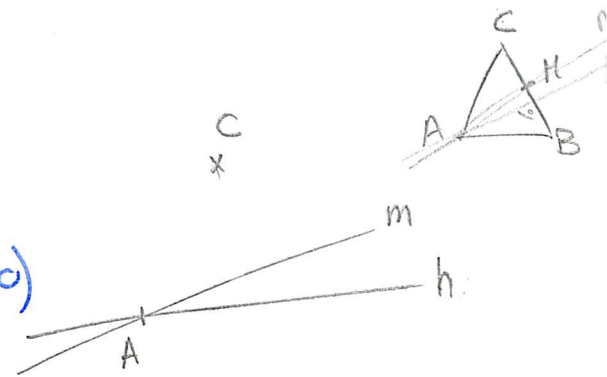
3.1.25

$$C(4; -1)$$

$$h: 2x - 3y + 12 = 0 \quad (\text{issue de } A)$$

$$m: 2x + 3y = 0 \quad (\text{issue de } A)$$

$$(C \notin h: 8 + 3 + 12 \neq 0 \text{ et } C \notin m: 8 - 3 \neq 0)$$



1)  $A = m \cap h$

$$\begin{cases} 2x - 3y = -12 \\ 2x + 3y = 0 \end{cases}$$

$$\hline 4x = -12$$

$$x = -3 \Rightarrow -6 + 3y = 0 \Rightarrow y = 2 \Rightarrow \underline{A(-3; 2)}$$

2)  $(CA): \vec{CA} = \begin{pmatrix} -7 \\ 3 \end{pmatrix} = \vec{d}_{CA} \Rightarrow 3x + 7y + c = 0$   
passe par C  $\Rightarrow 12 - 7 + c = 0$   
 $c = -5$  }  $\Rightarrow \underline{\underline{(CA): 3x + 7y - 5 = 0}}$

3)  $(CB) \perp h \Rightarrow 3x + 2y + c = 0$   
passe par C  $\Rightarrow 12 - 2 + c = 0$   
 $c = -10$  }  $\Rightarrow \underline{\underline{(CB): 3x + 2y - 10 = 0}}$

4)  $H = (CB) \cap m$

$$\begin{cases} 3x + 2y = 10 & | \cdot 3 \\ 2x + 3y = 0 & | \cdot (-2) \end{cases} + \begin{cases} 9x + 6y = 30 \\ -4x - 6y = 0 \end{cases}$$

$$\hline 5x = 30$$

$$x = 6 \Rightarrow 12 + 3y = 0$$

$$y = -4 \Rightarrow \underline{H(6; -4)}$$

5)  $H(6; -4)$  milieu de BC

$$H(6; -4) = \left( \frac{x+4}{2}; \frac{y-1}{2} \right) \Rightarrow \underline{B(8; -7)}$$

6)  $(AB): \vec{AB} = \begin{pmatrix} 11 \\ -9 \end{pmatrix} = \vec{d}_{AB} \Rightarrow 9x + 11y + c = 0$   
passe par A :  $-27 + 22 + c = 0$   
 $c = 5$  }  $\Rightarrow \underline{\underline{(AB): 9x + 11y + 5 = 0}}$