

EXERCICE 19 S3

MR géométrique

$$M_{AB} = \frac{A+B}{2} = \left(\frac{-4+1}{2}, \frac{2+3}{2} \right) = \left(-\frac{3}{2}, \frac{5}{2} \right)$$

$$M_{AC} = \frac{A+C}{2} = \left(\frac{-4+2}{2}, \frac{2+5}{2} \right) = \left(-1, \frac{7}{2} \right)$$

$$M_{BC} = \frac{B+C}{2} = \left(\frac{1+2}{2}, \frac{3+5}{2} \right) = \left(\frac{3}{2}, 4 \right)$$

Calcul du centre de gravité:

$$\begin{aligned} G &= \frac{A+B+C}{3} = \left(\frac{-4+1+2}{3}, \frac{2+3+5}{3} \right) \\ &= \left(-\frac{1}{3}, \frac{10}{3} \right) \end{aligned}$$

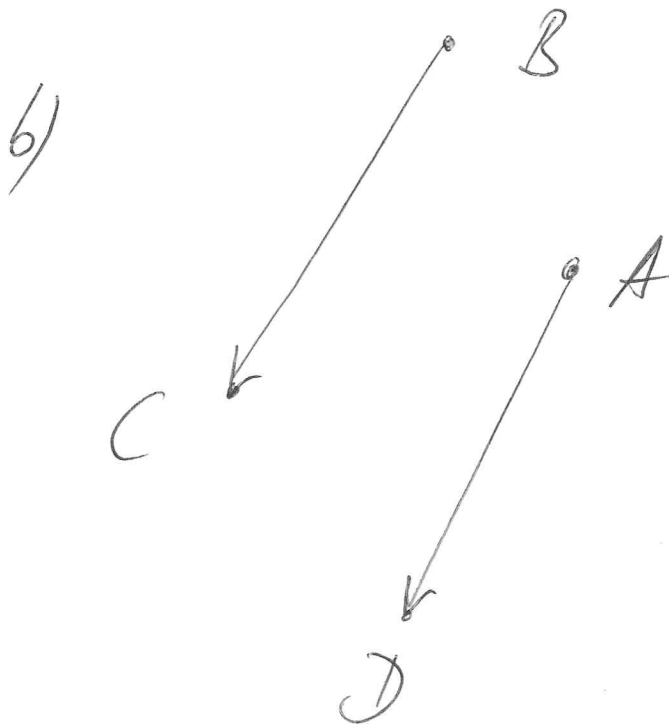
EXERCICE 21 S_3

a) Soit (x, y) représentant le point C.

On veut que $\frac{A+B+C}{3} = (0, 0)$

$$\Rightarrow \frac{2+0+x}{3} = 0 \text{ et } \frac{-1+3+y}{3} = 0$$

$$\Rightarrow x = -2 \text{ et } y = -2 \Rightarrow C(-2, -2)$$



$$D = A + \vec{BC}$$

$$\vec{BC} = \begin{pmatrix} -2 \\ -5 \end{pmatrix}$$

$$\begin{aligned} D &= (2, -1) + (-2, -5) \\ &= (0, -6) \end{aligned}$$