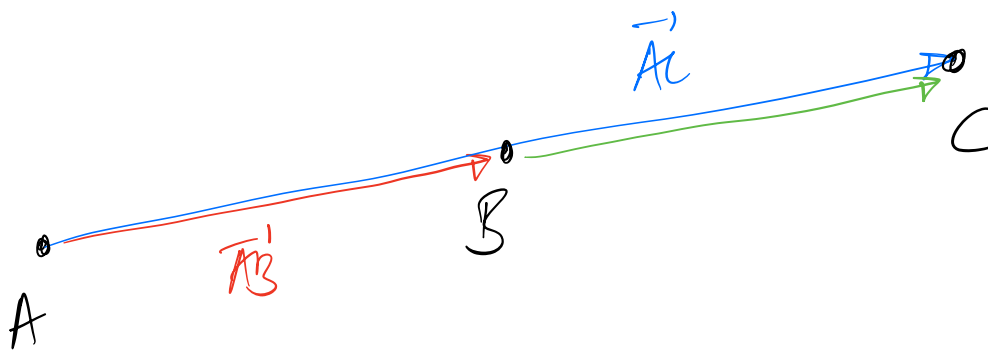


Alignement



A, B, C alignés

$$A(1; 1; -2) \quad B(3; 1; 2) \quad C(5; 4; -1)$$

$$\vec{AB} = \begin{pmatrix} 2 \\ 0 \\ 4 \end{pmatrix} \quad \vec{AC} = \begin{pmatrix} 4 \\ 3 \\ 1 \end{pmatrix}$$

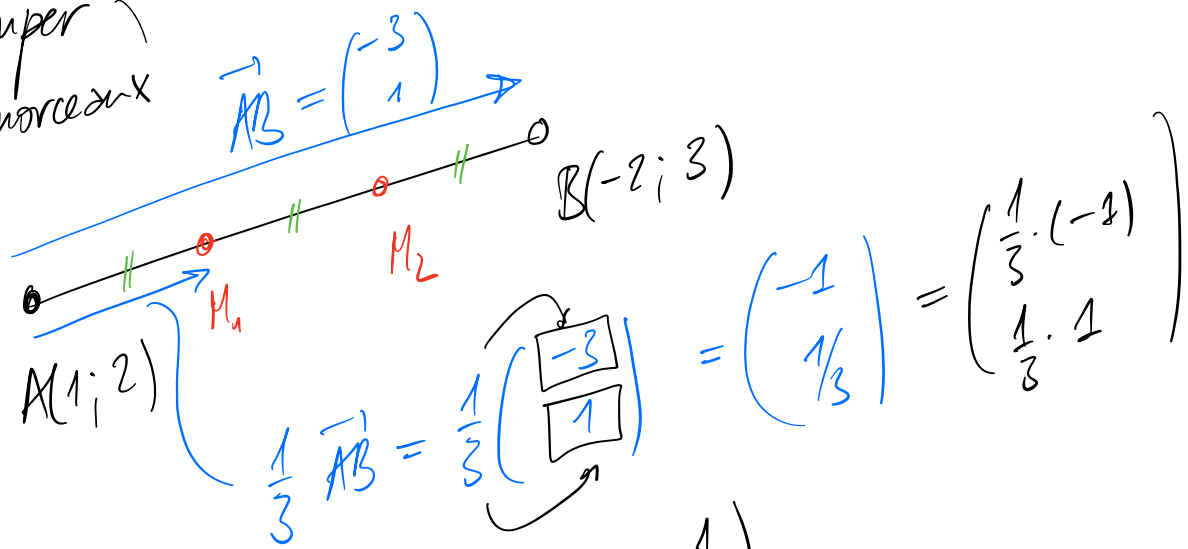
$$\begin{pmatrix} 2 \\ 0 \\ 4 \end{pmatrix} = k \cdot \begin{pmatrix} 4 \\ 3 \\ 1 \end{pmatrix}$$

↑
nombre

$$\begin{cases} 2 = 4k \\ 0 = 3k \\ 4 = k \end{cases} \quad \left. \vphantom{\begin{cases} 2 = 4k \\ 0 = 3k \\ 4 = k \end{cases}} \right\} \text{Incompatibles}$$

A, B, C ne sont pas alignés.

AB à découper
en 3 morceaux



$$M_1 = A + \frac{1}{3} \vec{AB} = (1; 2) + \left(-2; \frac{1}{3}\right) = (0; \frac{7}{3})$$

$$M_2 = A + \frac{2}{3} \vec{AB} = (-1; \frac{8}{3})$$

$$A = (a_1; a_2; a_3)$$

$$B = (b_1; b_2; b_3)$$

$$u = \begin{pmatrix} u_1 \\ u_2 \\ u_3 \end{pmatrix}$$

$$\vec{AB} = \begin{pmatrix} b_1 - a_1 \\ b_2 - a_2 \\ b_3 - a_3 \end{pmatrix}$$