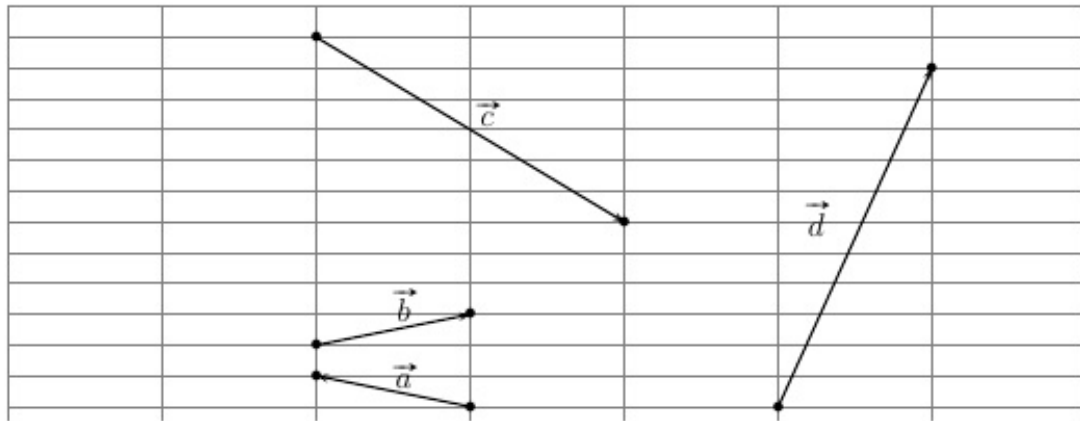


1.2.4 Exprimer les vecteurs \vec{a} et \vec{b} comme combinaison linéaire de \vec{c} et \vec{d} si :

Rappel

b ↓
a ↓



$$\begin{cases} -4a - 2b = 1 \\ 5a + 6b = 1 \end{cases} \quad \left| \begin{array}{c} 3 \\ 1 \end{array} \right| \quad \begin{array}{c} 5 \\ 4 \end{array}$$

$$\begin{array}{r} -12a - 6b = 3 \\ + \quad 5a + 6b = 1 \\ \hline -7a = 4 \\ a = -\frac{4}{7} \end{array}$$

$$\begin{array}{r} -20a - 10b = 5 \\ + \quad 20a + 24b = 4 \\ \hline 14b = 9 \\ b = \frac{9}{14} \end{array}$$

1) $\vec{c} = -4\vec{a} - 2\vec{b}$
 $\vec{d} = 5\vec{a} + 6\vec{b}$

2)
$$\begin{cases} -4\vec{a} - 2\vec{b} = \vec{c} \\ 5\vec{a} + 6\vec{b} = \vec{d} \end{cases} \quad \left| \begin{array}{c} 3 \\ 1 \end{array} \right| \quad \begin{array}{c} 5 \\ 4 \end{array}$$

$$\begin{array}{r} -12\vec{a} - 6\vec{b} = 3\vec{c} \\ + \quad 5\vec{a} + 6\vec{b} = \vec{d} \\ \hline -7\vec{a} = 3\vec{c} + \vec{d} \quad | \div (-7) \\ \vec{a} = -\frac{3}{7}\vec{c} - \frac{1}{7}\vec{d} \end{array}$$

$$\vec{b} = \frac{5}{14}\vec{c} + \frac{2}{7}\vec{d}$$