

Exercice 6 p 76

$$1) \vec{AB}(1, 2, -4) \quad AB \equiv \begin{cases} x = -1 - \lambda \\ y = 2 + 2\lambda \\ z = 3 - 4\lambda \end{cases}$$

$$AB \equiv \begin{cases} 2x - y = -3 \\ 4x - z = 1 \end{cases}$$

$$2) \vec{AB}(-4, 0, -5) \quad AB \equiv \begin{cases} x = 4 - 4\lambda \\ y = -1 \\ z = 3 - 5\lambda \end{cases}$$

$$AB \equiv \begin{cases} y = 1 \\ -5x + 4z = -8 \end{cases}$$

$$3) \vec{AB}(-4, -1, 4) \quad AB \equiv \begin{cases} x = -4\lambda \\ y = 2 - \lambda \\ z = -1 + 4\lambda \end{cases}$$

$$AB \equiv \begin{cases} -x + 4y = 8 \\ x + y = -1 \end{cases}$$

$$4) \vec{AB}(0, 0, -6) \quad AB \equiv \begin{cases} x = 2 \\ y = -1 \\ z = 5 + \lambda \end{cases}$$

$$AB \equiv \begin{cases} x = 2 \\ y = -1 \end{cases}$$

$$5) \vec{AB}(-3, 4, 0) \quad AB \equiv \begin{cases} x = -3\lambda \\ y = -4 + 4\lambda \\ z = 0 \end{cases}$$

$$AB \equiv \begin{cases} z = 0 \\ 4x + 3y = -12 \end{cases}$$

Exercice 7 p 77

$$1) d \equiv \begin{cases} x = \lambda \\ y = -1 - 2\lambda \\ z = \lambda \end{cases}$$

$$\Leftrightarrow \begin{cases} -2x - y = 1 \\ x = z \end{cases}$$

$$2) d \equiv \begin{cases} x = 1 \\ y = -2 - \lambda \\ z = 3 + 2\lambda \end{cases}$$

$$\Leftrightarrow \begin{cases} x = 1 \\ 2y + z = -1 \end{cases}$$

$$3) d \equiv \begin{cases} x = -2 + \lambda \\ y = 0 \\ z = -3 \end{cases}$$

$$\Leftrightarrow \begin{cases} y = 0 \\ z = -3 \end{cases}$$

Exercice 8 p 77

$$1) \vec{AB}(-1, 0, 2); \vec{AC}(-2, 0, 4) \Rightarrow \vec{AC} = 2\vec{AB} \Rightarrow \text{oui}$$

$$2) A, C \in xOz; B \in yOz \Rightarrow \text{NON}$$

$$3) \vec{AB}(1, -1, -2); \vec{AC}(3, -3, -6) \Rightarrow \vec{AC} = 3\vec{AB} \Rightarrow \text{oui}$$

$$4) \vec{AB}(2, -1, 3); \vec{AC}(-1, 1, 5) \Rightarrow \text{non } \parallel \Rightarrow \text{NON}$$

Exercice 9 p 77

$$1) d \equiv \begin{cases} x+2y=5 \\ 3x-5z=-1 \end{cases} \Leftrightarrow \begin{cases} y = \frac{5-x}{2} \\ z = \frac{3x+1}{5} \end{cases} \Leftrightarrow \begin{cases} x = \lambda \\ y = \frac{5}{2} - \frac{1}{2}\lambda \\ z = \frac{1}{5} + \frac{3}{5}\lambda \end{cases} \quad \vec{v} \left( 1, -\frac{1}{2}, \frac{3}{5} \right)$$

$$2) d \equiv \begin{cases} x=y \\ z=-1 \end{cases} \Leftrightarrow \begin{cases} x = \lambda \\ y = \lambda \\ z = -1 \end{cases} \quad \vec{v} (1, 1, 0)$$

$$3) d \equiv \begin{cases} x+2y-3z=-1 \\ 2x-y-z=5 \end{cases} \Leftrightarrow \begin{cases} 5x-5z=9 \\ 5y+5z=-7 \end{cases} \Leftrightarrow \begin{cases} x = \frac{9+5z}{5} \\ y = \frac{-7-5z}{5} \end{cases}$$

$$\Leftrightarrow \begin{cases} x = \lambda + \frac{9}{5} \\ y = \lambda - \frac{7}{5} \\ z = \lambda \end{cases}$$