

# Exercices Série 9

1) Quel est l'inverse des vecteurs suivants :

$$\vec{x} = (1, 2) \quad \vec{y} = (-1, 2) \quad \vec{z} = (2x + 3, 2 - y)$$

2) Montrez que  $\lambda(\vec{x} + \vec{y}) = \lambda\vec{x} + \lambda\vec{y}$  (en 2 dimensions)

## Réponses

$$1) \quad -\vec{x} = (-1, -2) \quad -\vec{y} = (1, -2) \quad -\vec{z} = (-2x - 3, y - 2)$$

$$\begin{aligned} 2) \quad \lambda(\vec{x} + \vec{y}) &= \lambda((x_1, x_2) + (y_1, y_2)) = \lambda(x_1 + y_1, x_2 + y_2) = (\lambda(x_1 + y_1), \lambda(x_2 + y_2)) \\ &= (\lambda x_1 + \lambda y_1, \lambda x_2 + \lambda y_2) = (\lambda x_1, \lambda x_2) + (\lambda y_1, \lambda y_2) = \lambda(x_1, x_2) + \lambda(y_1, y_2) = \lambda\vec{x} + \lambda\vec{y}. \end{aligned}$$