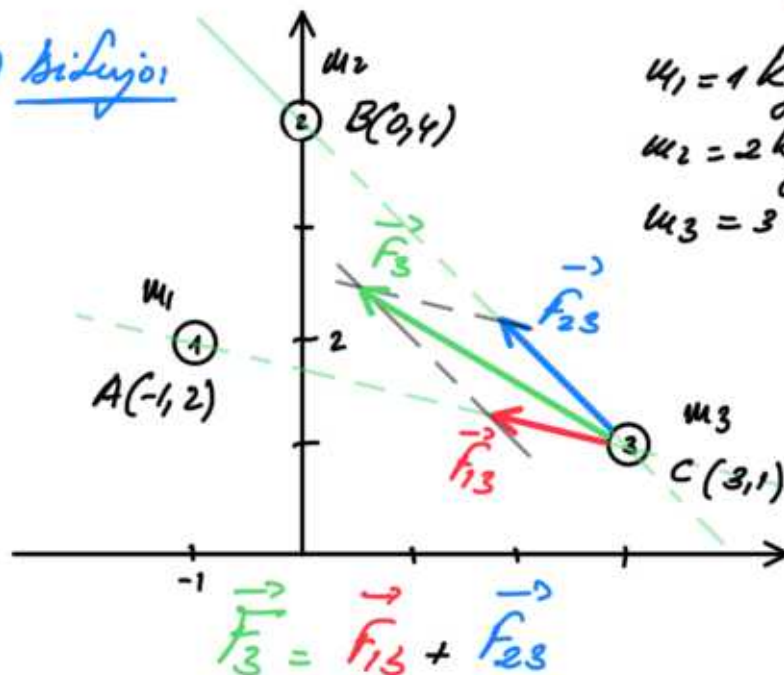


EJERCICIO FQ1BE2377:

"achiunafes.com"

a) Diagrama



$$m_1 = 1 \text{ kg en } A(-1, 2)$$

$$m_2 = 2 \text{ kg en } B(0, 4)$$

$$m_3 = 3 \text{ kg en } C(3, 1)$$

b)
$$\vec{F}_{13} = -G \frac{m_1 m_3}{r_{13}^2} \frac{\vec{r}_{13}}{r_{13}} = \dots$$

$$\vec{r}_{13} = 4\vec{e}_x - \vec{e}_y \Rightarrow |\vec{r}_{13}| = \sqrt{(-4)^2 + 1^2} = \sqrt{17} \text{ m}$$

$\vec{AC} = C - A$

$$\dots = -6,67 \cdot 10^{-11} \frac{1 \cdot 3}{(\sqrt{17})^2} \frac{4\vec{e}_x - \vec{e}_y}{\sqrt{17}} =$$

$$\vec{F}_{13} = -1,14 \cdot 10^{-11} \vec{e}_x + 2,85 \cdot 10^{-12} \vec{e}_y \text{ (N)}$$

c)
$$\vec{F}_{23} = -G \frac{m_2 m_3}{r_{23}^2} \frac{\vec{r}_{23}}{r_{23}} = \dots$$

$$\vec{r}_{23} = 3\vec{e}_x - 3\vec{e}_y \Rightarrow |\vec{r}_{23}| = \sqrt{3^2 + (-3)^2} = \sqrt{18} \text{ m}$$

$\vec{BC} = C - B$

$$\dots = -6,67 \cdot 10^{-11} \frac{2 \cdot 3}{(\sqrt{18})^2} \frac{3\vec{e}_x - 3\vec{e}_y}{\sqrt{18}} =$$

$$\vec{F}_{23} = -1,57 \cdot 10^{-11} \vec{e}_x + 1,57 \cdot 10^{-11} \vec{e}_y \text{ (N)}$$

$$d) \vec{F}_3 = \vec{F}_{13} + \vec{F}_{23} = \dots$$

Vector: $\vec{F}_3 = -2,71 \cdot 10^{-11} \vec{i} + 1,86 \cdot 10^{-11} \vec{j} \text{ (N)}$

$$|\vec{F}_3| = \sqrt{(-2,71 \cdot 10^{-11})^2 + (1,86 \cdot 10^{-11})^2} =$$

Módulo: $F_3 = 3,29 \cdot 10^{-11} \text{ N}$