Soluciones a la autoevaluación

Unidad 7

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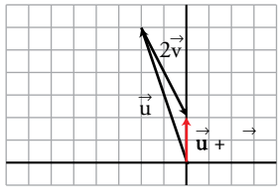

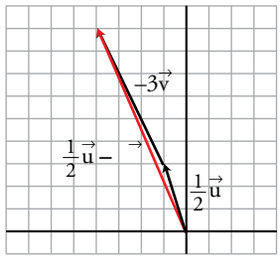

$\vec{u} + 2\vec{v} = (0, 2)$

$\frac{1}{2}\vec{u} - 3\vec{v} = (-4, 9)$

2 a) $\vec{u} \cdot \vec{v} = \frac{1}{2}$

b) $(3\vec{u}) \cdot (-2\vec{v}) = -3$

c) $proy_{\vec{u}}(\vec{u} + \vec{v}) = \frac{3}{2}$

3 $\vec{a} = 2(-2, 3) - 3(-1, 5)$

4 a) $\vec{u} \cdot \vec{v} = 2\sqrt{3}$

b) $|\vec{u}| = 2, \ |\vec{v}| = 2$

c) $\widehat{(\vec{u}, \vec{v})} = 30°$

5 a) Hay dos posibles soluciones:

$\vec{a_1} = \left(\frac{3}{5}, \frac{-4}{5}\right)$

$\vec{a_2} = \left(\frac{-3}{5}, \frac{4}{5}\right)$

b) Hay dos posibles soluciones:

$\vec{b_1} = \left(\frac{8}{5}, \frac{6}{5}\right)$

$\vec{b_2} = \left(\frac{-8}{5}, \frac{-6}{5}\right)$

6 a) $k = -2$

b) $k_1 = 4, \ k_2 = -4$

7 $\vec{a} = (-1, -\sqrt{3})$ o $\vec{a} = (-1, +\sqrt{3})$

8 $\vec{u} = (-3, 4)$ o $\vec{u} = (3, -4)$

9 $|\vec{a} + \vec{b}| = 1$

$|\vec{a} - \vec{b}| = \sqrt{3}$