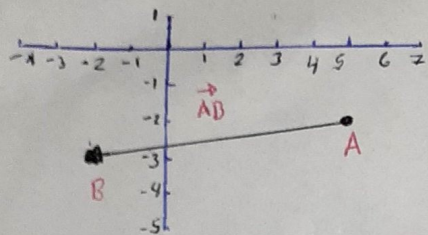


① Puntos: $A(5,2)$ y $B(-2,-3)$ * construir vector



$$\begin{aligned}\vec{AB} &= B - A \\ \vec{AB} &= B(-2, -3) - A(5, 2) \\ \vec{AB} &= (-2-5), (-3-2) \\ \vec{AB} &= (-7, -5)\end{aligned}$$

* Magnitud de un vector

* Direccion del vector

$$|D| = \sqrt{x^2 + y^2}$$

$$\alpha = \tan^{-1}\left(\frac{y}{x}\right)$$

$$|AB| = \sqrt{49 + 25}$$

$$\alpha = \tan^{-1}\left(\frac{-5}{-7}\right)$$

$$|AB| = \sqrt{74} = 8.6$$

$$\alpha = 35.5^\circ$$

② Vectores: $a(5,2)$, $b(-1,7)$ y $c(-1,-4)$ calcular: $2b + 3(a+c) + 2a$

$$2(-1, 7) + 3[(5, 2) + (-1, -4)] + 2(5, 2)$$

$$2(-1, 7) + 3(4, -2) + 2(5, 2)$$

$$(-2, 14) + (12, -6) + (10, 4)$$

$$(-2 + 12 + 10; 14 + (-6) + 4)$$

$$(20, 12)$$

③ Vectores: $A=3i+5j$, $B=7i-2j$

$$A \cdot B = (3)(7) + (5)(-2) = 21 - 10 = 11$$

$$|A| = \sqrt{9 + 25} = \sqrt{34}$$

$$|B| = \sqrt{49 + 4} = \sqrt{53}$$

$$\cos \alpha = \frac{11}{\sqrt{34} \cdot \sqrt{53}} = \frac{11}{\sqrt{1802}} = 0.25912$$

$$\cos^{-1} \cos \alpha = \cos^{-1}(0.25912) = 74.98^\circ$$

