

Mechanics Quiz - group A

Full name: KEY

1. Let $A=2i+3k$ and $B=2j+k$. Find $A \times B$

$$a_x=2 \quad a_y=0 \quad a_z=3 \quad b_x=0 \quad b_y=2 \quad b_z=1$$

$$\vec{C} = \vec{A} \times \vec{B}$$

$$\vec{C} = (a_y b_z - a_z b_y) \hat{i} + (a_z b_x - a_x b_z) \hat{j} + (a_x b_y - a_y b_x) \hat{k}$$

$$\vec{C} = (0 \cdot 1 - 3 \cdot 2) \hat{i} + (3 \cdot 0 - 2 \cdot 1) \hat{j} + (2 \cdot 2 - 0 \cdot 0) \hat{k}$$

$$\vec{C} = -6\hat{i} - 2\hat{j} + 4\hat{k}$$