

$$\begin{array}{ccc|ccc} 2 & 1 & -3 & k & 1 & 1 & k \\ 2 & -2 & 9 & & 2 & -2 & 9 \\ 1 & -3 & 2 & & 1 & -3 & 2 \end{array}$$

$$\begin{aligned}
 A \times B &= ((-2 \cdot 2 - 9 \cdot -3) \mathbf{i} - ((1 \cdot 1 - 2 \cdot 2) \mathbf{j}) + ((2 \cdot -3) - (-2 \cdot 1) \mathbf{k}) \\
 &= (-9 + 12) \mathbf{i} - (1 - 4) \mathbf{j} + (-6 + 2) \mathbf{k} \\
 &= 3\mathbf{i} - 3\mathbf{j} - 4\mathbf{k} \\
 &= 3\mathbf{i} - 3\mathbf{j} - 4\mathbf{k}
 \end{aligned}$$

$$1. A = 2\mathbf{i} - 2\mathbf{j} + 4\mathbf{k}$$

$$B = \mathbf{i} - 3\mathbf{j} + 2\mathbf{k}$$

$$A \cdot B = \rightarrow = (2 \cdot 1) + (-2 \cdot -3) + (4 \cdot 2)$$

$$A \times B = = 2 + 6 + 8$$

$$= 16.$$

$$A = 5\mathbf{i} - 2\mathbf{j} + 2\mathbf{k}$$

$$B = 2\mathbf{i} - 2\mathbf{j} + \mathbf{k}$$

$$A \times B = (-4 \cdot 1 - 2 \cdot -2) \mathbf{i} + (2 \cdot 2 - 5 \cdot 1) \mathbf{j} + (5 \cdot -2) - (-4 \cdot 2) \mathbf{k}$$

$$= (-4 + 4) \mathbf{i} + (4 - 5) \mathbf{j} + (-10 + 8) \mathbf{k}$$

$$= -\mathbf{j} - 2\mathbf{k}$$

Fisika

$$A = 2i - 2j + 4k$$

$$B = 4i - 3j + 2k$$

$$\begin{aligned} A \cdot B &= i \quad j \quad k \\ &= (2 \cdot 2)i + (-2 \cdot -3)j + (4 \cdot 2)k \\ &= 8i + 6j + 8k \\ &= 22 \end{aligned}$$

$$\begin{aligned} A \times B &= \begin{vmatrix} i & j & k \\ 2 & -2 & 4 \\ 4 & -3 & 2 \end{vmatrix} \\ &= ((-2 \cdot 2) - (4 \cdot -3))i + ((4 \cdot 4) - (2 \cdot 2))j + ((2 \cdot -3) - (-2 \cdot 4))k \\ &= (-4 + 12)i + (16 - 4)j + (-6 + 8)k \\ &= 8i + 12j + 2k \end{aligned}$$