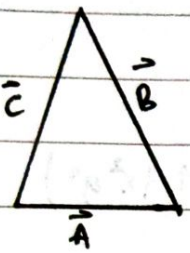
No.

Date . .

Rizka Diah Nuariyanti

Soal nomor 1



$\vec{A} = \hat{i} + 2\hat{j} + 0\hat{k}$

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

hitung vektor c

hitung sudut $\vec{A}\vec{B}$

a $\vec{A} + \vec{B} = \vec{C}$

$\vec{C} = 0\hat{i} + 0\hat{j} + 3k$

b $\vec{A} \cdot \vec{B} = (\hat{i} + 2\hat{j} + 0k) \cdot (-\hat{i} - 2\hat{j} + 3k)$

$= -\hat{i} - 4\hat{j} + 0k = -5$

$\vec{A} = \sqrt{1 + 4 + 0}$

$\vec{B} = \sqrt{1 + 4 + 9}$

$\vec{A} \cdot \vec{B} = |A| \cdot |B| \cos\theta$

$-5 = \sqrt{5}\sqrt{14}$

$\theta = \text{asc cos} \dfrac{-5}{\sqrt{5}\sqrt{19}}$

No.

Date . .

Soal nomor 2

$\vec{A} = 2x\hat{i} + 3x^2\hat{j} + 4xy\hat{k}$

$\vec{B} = xy\hat{i} + 2x\hat{j} + 3x\hat{k}$

$\vec{A} \times \vec{B} = \begin{vmatrix} i & j & k \\ 2x & 3x^2 & 4x^2y \\ xy & 2x & 3x \end{vmatrix} = \hat{i}(9x^3 - 8x^2y) - \hat{j}(6x + 4x^2y^2) - k(4x^2 + 3x^3)$

Soal nomor 3

Hitung divergensi vektor berikut

a). $V_1 = x^2\hat{i} + 3xz^2\hat{j} - 2xz\hat{k}$

b). $V_2 = xy\hat{i} + 2yz\hat{j} + 3xz\hat{k}$

c). $V_3 = y^2\hat{i} + (2xy + z^2)\hat{j} - 2yz\hat{k}$

Jawab :

$\nabla V_1 = 2x + 0\hat{j} - 2x +$

$\nabla V_2 = y\hat{i} + 2z + 3x$

$\nabla V_3 = 0\hat{i} + (2x + z^2) - 2y$