



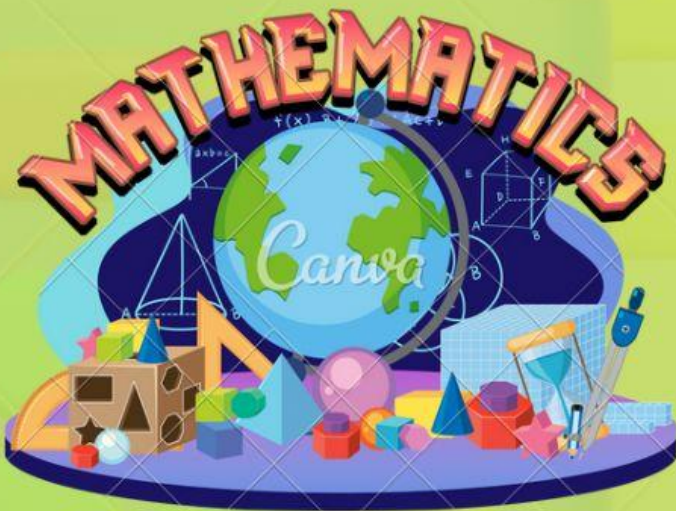
SMK Negeri Kare

Ulangan harian

Materi

Vektor, Persamaan dan Fungsi Kuadrat

Matematika
kelas XI



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Nama:

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KERJAKAN SOAL DI BAWAH INI DENGAN TEPAT

1. Di ketahui vektor $\vec{a} = -i + 3j - 2k$ dan $\vec{b} = -3i + 5j - k$, maka $5\vec{a} + \vec{b}$ adalah....

- A. $8i + 20j + 11k$
- B. $8i + 20j - 11k$
- C. $8i - 20j + 11k$
- D. $-8i + 20j - 11k$
- E. $-8i - 20j - 11k$

2. Di ketahui dua vektor $\vec{a} = 4i + 5j - 4k$ dan $\vec{b} = 5j + k$, maka $\vec{a} \cdot \vec{b}$ adalah....

- A. 20
- B. 21
- C. -20
- D. -21
- E. -10

3. Di ketahui vektor $\vec{a} = i + 3j + 2k$ dan $\vec{b} = 3i + 7j - k$, maka hasil dari:

$$4\vec{a} + 2\vec{b}$$

$$-\vec{a} + 4\vec{b}$$



4. Di ketahui vektor $\vec{a} = 10i - 13j + 12k$ dan $\vec{b} = 3i + j - k$, maka $2a - 3b$ adalah....

$$2a - 3b = \dots\dots\dots \begin{pmatrix} \dots\dots\dots \\ \dots\dots\dots \\ \dots\dots\dots \end{pmatrix} - \dots\dots\dots \begin{pmatrix} \dots\dots\dots \\ \dots\dots\dots \\ \dots\dots\dots \end{pmatrix}$$

$$= \begin{pmatrix} \dots\dots\dots \\ \dots\dots\dots \\ \dots\dots\dots \end{pmatrix} - \begin{pmatrix} \dots\dots\dots \\ \dots\dots\dots \\ \dots\dots\dots \end{pmatrix}$$

$$= \begin{pmatrix} \dots\dots\dots - \dots\dots\dots \\ \dots\dots\dots - \dots\dots\dots \\ \dots\dots\dots - \dots\dots\dots \end{pmatrix}$$

$$= \begin{pmatrix} \dots\dots\dots \\ \dots\dots\dots \\ \dots\dots\dots \end{pmatrix}$$

$$= \dots\dots\dots$$

5. Pasangkan kolom sebelah kanan dengan kolom sebelah kiri

$$\vec{b} = -3i - j + k$$

$$\vec{a} = 3i + 10j$$

$$\vec{c} = j - k$$

$$\cos 150^\circ$$

$$x_1 + x_2$$

$$x_1 \cdot x_2$$

$$= -\frac{1}{2}\sqrt{3}$$

$$= -\frac{b}{a}$$

$$\begin{pmatrix} 1 \\ -1 \\ 0 \end{pmatrix}$$

$$= \frac{c}{a}$$

$$\begin{pmatrix} 3 \\ 10 \\ 0 \end{pmatrix}$$

$$\begin{pmatrix} 1 \\ 0 \\ -1 \end{pmatrix}$$

6. Sudut antara $\vec{a} = 2\vec{i} + \vec{j} + 2\vec{k}$ dan $\vec{b} = \vec{i} + 2\vec{j} - 2\vec{k}$ adalah...

$$\cos \theta = \frac{\dots\dots\dots}{\dots\dots\dots}$$

$$\cos \theta = \frac{\dots\dots\dots + \dots\dots\dots + \dots\dots\dots}{\sqrt{\dots\dots\dots + \dots\dots\dots + \dots\dots\dots} \sqrt{\dots\dots\dots + \dots\dots\dots + \dots\dots\dots}}$$

$$\cos \theta = \frac{\dots\dots\dots + \dots\dots\dots}{\sqrt{\dots\dots\dots + \dots\dots\dots + \dots\dots\dots} \sqrt{\dots\dots\dots + \dots\dots\dots + \dots\dots\dots}}$$

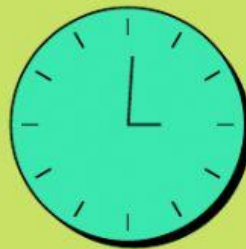


$$\cos \theta = \frac{\dots\dots\dots + \dots\dots\dots}{\sqrt{\dots\dots\dots + \dots\dots\dots} \sqrt{\dots\dots\dots + \dots\dots\dots}}$$

$$\cos \theta = \frac{\dots\dots\dots}{\sqrt{\dots\dots\dots} \sqrt{\dots\dots\dots}}$$

$$\cos \theta = \dots\dots\dots$$

$$\cos \theta = \dots\dots\dots^0$$



7. Diketahui x_1 dan x_2 adalah akar-akar $4x^2 - 8x + 36 = 0$, maka $\frac{1}{x_1} + \frac{1}{x_2}$ adalah....

A. $-\frac{2}{9}$

B. $-\frac{3}{9}$

C. $\frac{2}{9}$

D. $\frac{3}{9}$

E. $-\frac{1}{9}$

8. Koordinat titik balik dari grafik fungsi kuadrat $f(x) = x^2 + 6x - 10$ adalah.....

$$(x, y) = \left(\frac{-\dots\dots\dots}{\dots\dots\dots}, \frac{-\dots\dots\dots}{\dots\dots\dots} \right)$$

$$(x, y) = \left(\frac{\dots\dots\dots}{\dots\dots\dots}, \frac{-\left(\frac{\dots\dots\dots}{\dots\dots\dots} \right)}{\dots\dots\dots} \right)$$

$$(x, y) = \left(\frac{\dots\dots\dots}{\dots\dots\dots}, \frac{-\left(\left(\frac{\dots\dots\dots}{\dots\dots\dots} \right)^2 - \dots\dots\dots \right)}{\dots\dots\dots} \right)$$

$$(x, y) = \left(\dots\dots\dots, \frac{-\left(\dots\dots\dots \right)}{\dots\dots\dots} \right)$$

$$(x, y) = \left(\dots\dots\dots, \frac{-\left(\dots\dots\dots \right)}{\dots\dots\dots} \right)$$

$$(x, y) = (\dots\dots\dots, \dots\dots\dots)$$

9. Sumbu simetri dari $f(x) = -3x^2 - 42x + 24$ adalah.....

$$x = \left(\frac{-\dots\dots\dots}{\dots\dots\dots} \right)$$

$$x = \left(\frac{-\left(\frac{\dots\dots\dots}{\dots\dots\dots} \right)}{\left(\frac{\dots\dots\dots}{\dots\dots\dots} \right)} \right)$$

$$x = \left(\frac{\dots\dots\dots}{\dots\dots\dots} \right)$$

$$x = \dots\dots\dots$$

10. Pilihlah jawaban yang benar dari soal di bawah ini!

Rumus fungsi kuadrat $y = f(x) = a(x - x_p)^2 + y_p^2$ merupakan bentuk grafik fungsi kuadrat yang melalui titik puncak?

Diketahui x_1 dan x_2 adalah akar-akar $2x^2 - 8x + 36 = 0$, maka $x_1^2 + x_2^2$ adalah -2



Selamat mengerjakan
semoga sukses

