

Two vectors $\vec{A}$ and $\vec{B}$, then the value of $(\vec{A} + \vec{B}) \times (\vec{A} - \vec{B})$ is

- ☐ a. $(\vec{A} \times \vec{B})$
- ☐ b. $-2(\vec{B} \times \vec{A})$
- ☐ c. $(\vec{B} \times \vec{A})$
- ☐ d. $2(\vec{B} \times \vec{A})$

Question 2

Not yet answered

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What vector must be added to the two vectors $\vec{A} = i - 2j + 2k$

and $\vec{B} = 2i + j - k$ so that the resultant is a unit vector in the direction of the positive x-axis

- ☐ a. $2i + j - k$
- ☐ b. $-2i + j - k$
- ☐ c. $2i - j + k$
- ☐ d. $-2i - j - k$

Question 4

Not yet answered

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The sum of two unit vectors is a unit vector if the angle between them is

- ☐ a. 0°
- ☐ b. 45°
- ☐ c. 90°
- ☐ d. 120°

Question 1

Not yet answered

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Two vectors $\vec{A} = a\hat{i} + a\hat{j} + 3\hat{k}$ and $\vec{B} = a\hat{i} - 2\hat{j} - \hat{k}$ are perpendicular to each other, the positive value of a is

- ☐ a. 3
- ☐ b. 4
- ☐ c. 9
- ☐ d. 13

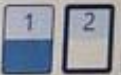
Question 2

Not yet answered

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10 October - 16 October

Quiz on Chapter

If $\vec{A} = 3\hat{i} - \hat{k}$, $\vec{C} = 2\hat{i} + \hat{j}$, then the closest angle between $(\vec{A} - \vec{C})$ and the Y-axis is

- ☐ a. 55°
- ☐ b. 30°
- ☐ c. 125°
- ☐ d. -30°

Question

Not yet

Marked

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If $\vec{A} = 3\hat{i} - \hat{k}$, $\vec{B} = \hat{i} - \hat{j}$, $\vec{C} = 2\hat{i} + \hat{j}$, then $\vec{B} \cdot (\vec{A} \times \vec{C})$, equal

- ☐ a. 0
- ☐ b. $3\hat{k}$
- ☐ c. 3
- ☐ d. $2\hat{j}$

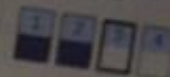
Question 3

Not yet answered

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If the speed v of a fluid of viscosity η flows through a cylindrical tube of radius R and length l is given by the formula $v = \frac{\Delta p}{8l} R^m \eta^n$. Where Δp is the pressure difference across the tube? Using the dimensional analysis to find the value of m and n . [Take the dimension of the viscosity equal $M (L T)^{-1}$]

- ☐ a. $m=2, n=1$
- ☐ b. $m=1, n=2$
- ☐ c. $m=2, n=-2$
- ☐ d. $m=2, n=-1$

The angles which a vector $\vec{A} = i + j + \sqrt{2}k$ makes with the X, Y, and Z axes respectively are

- ☐ a. $60^\circ, 60^\circ, 60^\circ$
- ☐ b. $45^\circ, 45^\circ, 45^\circ$
- ☐ c. $45^\circ, 45^\circ, 60^\circ$
- ☐ d. $60^\circ, 60^\circ, 45^\circ$

Question 1

Not yet answered

Marked out of 2.0

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The coefficient of thermal conductivity depends upon

Select one:

- ☐ a. Material of the plate
- ☐ b. Temperature difference of two surfaces
- ☐ c. Area of the plate
- ☐ d. All the above

Not yet answered

Marked out of 3.00

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A load of 1kN acts longitudinally on a bar having square cross-sectional area 0.8 cm^2 and length 10 cm. The tensile stress developed in the bar is

- ☐ a. 25 N/mm^2
- ☐ b. 50 N/mm^2
- ☐ c. 75 N/mm^2
- ☐ d. 125 N/mm^2

Question 3

Not yet answered

Marked out of 1.00

Flag question

Next page

. If the sum of two unit vectors is 1, then what is the difference between them?

- ☒ a. $\frac{1}{\sqrt{2}}$
- ☐ b. $\sqrt{2}$
- ☐ c. $\sqrt{3}$
- ☐ d. $\sqrt{4}$

Clear my choice

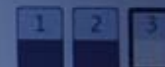
Question 3

Not yet answered

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Two vectors $\vec{A} = 2\hat{i} + b\hat{j} + 2\hat{k}$ and $\vec{B} = \hat{i} + \hat{j} + \hat{k}$ will be parallel if

- ☐ a. $b = 0$
- ☐ b. $b = 1$
- ☐ c. $b = 2$
- ☐ d. $b = -4$

Question 4

Not yet answered

Marked out of 2.0

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