

$$\sin \alpha + \cos \alpha = 1 \quad \text{or} \quad \cos \alpha + \sin \alpha = 1 \Rightarrow \cos \alpha = \frac{1}{2}$$

(1)

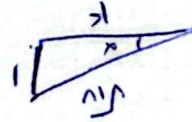
(2)

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

1.50

$$\sin \alpha = \frac{1}{\sqrt{2}} \quad \cos \alpha = \frac{1}{\sqrt{2}}$$

$$k + 1 = 11$$

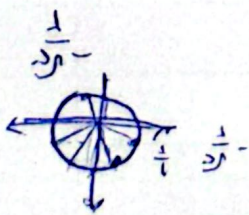


$$\alpha t = k$$

(3)

1.50

$$\frac{1}{\sqrt{2}} = \frac{1}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \frac{1}{2}$$

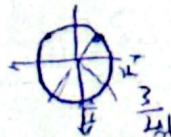


$$\frac{1}{\sqrt{2}} = \frac{1}{\sqrt{2}}$$

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

$$\cos \alpha = \frac{1}{\sqrt{2}}$$

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



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

(4)

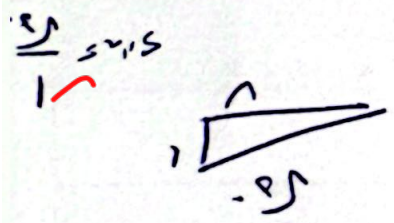
(5)

1.50

1.50

فرض کنید $A = \sqrt[3]{9\sqrt{2}} (1+i)^{-1/6}$ و $A^{-1} = \sqrt[3]{9\sqrt{2}} (1-i)^{-1/6}$ را محاسبه کنید

1) $\sin \frac{2}{11\pi} \cos \alpha + \cos \frac{2}{11\pi} \sin \alpha$



$\sin \frac{2}{11\pi} = \frac{1}{2}$

$\cos \frac{2}{11\pi} = \frac{\sqrt{3}}{2}$

$$\boxed{-\sqrt[3]{9\sqrt{2}} + \frac{r_0}{-\sqrt{2}}}$$

$\sin \alpha = \frac{1}{\sqrt{2}} \rightarrow \alpha = \frac{\pi}{4}$

جواب صحیح است...

$\cos \frac{2}{11\pi} \cos \alpha + \sin \frac{2}{11\pi} \sin \alpha$

$$\boxed{\cos \alpha = -\frac{1}{\sqrt{2}}}$$

10

2

2 + 2

$$-\frac{\sqrt{r}}{r} \times \frac{v}{\sqrt{a}} + \frac{-\sqrt{r}}{r} \times \frac{1}{\sqrt{a}}$$

$$\frac{-v\sqrt{r}}{r\sqrt{a}} + \frac{-\sqrt{r}}{r\sqrt{a}} = \frac{-1\sqrt{r}}{r\sqrt{a}}$$

$$\sin^2 + \cos^2 = \frac{r}{r} \quad (2)$$

$$\sin^2 = \frac{1}{r} \Rightarrow \cos^2 = \frac{r}{r}$$

$$\tan^2 = \frac{\sin^2}{\cos^2} = \frac{\frac{1}{r}}{\frac{r}{r}} = \frac{1}{r} \quad \checkmark$$

$$S_0 = \frac{1}{r} \times 4\sqrt{r} = \sin \alpha \quad (4)$$

$$4\sqrt{r} \times \sin \alpha = 9 \quad (2)$$

$$\sin \alpha = \frac{9}{4\sqrt{r}} \rightarrow \frac{1}{r}$$

$$\frac{11}{9} = \frac{1}{r} \quad \checkmark \quad \frac{4\sqrt{r}}{r} = \frac{\sqrt{r}}{r} \times \sin \alpha$$

11%, 9%

$$\frac{1}{|\cos x|} - \frac{\sin x}{\cos x} = \frac{1 + \sin x}{|\cos x|}$$

(1.)

(2.)

بہر برابر اور شور

$$\frac{(-\sin x)}{\cos x} + \frac{1}{|\cos x|} = \frac{1 - \sin x}{|\cos x|}$$

$\cos x < 0$

بہر منفی اور

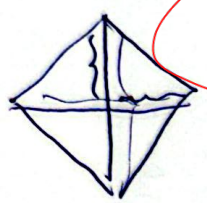
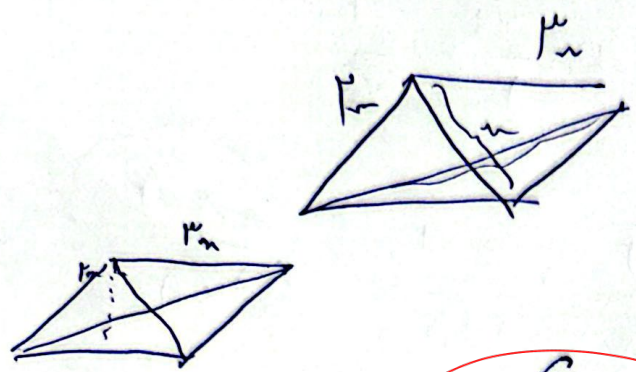
منفی

$$\frac{|\sin x|}{\cos x} = - \frac{\sin x}{\cos x}$$

✓ $\sin, \cos$ منفی اور $\Rightarrow$

$\sum \vec{F} = 0$

(✓)



$$S = \frac{1}{r} \times \pi \times y \times \frac{1}{r} = d \epsilon$$

$$r S_0 = r \times S \times \frac{1}{r} = \pi y$$

$$k^2 = 10 \times \sqrt{1} \times r$$

$$r y = 4 \pi$$

$$r = \frac{4 \pi}{y}$$

(1)

(2)

$$\tan = \frac{\sqrt{r}}{r}$$

$$\frac{1}{r} \times V \times r \times \sin \alpha$$

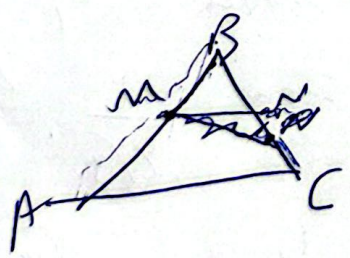
$$\frac{1}{r} \times d \times V \times \sin \alpha$$

$$\frac{1}{r} \times \frac{1}{\sqrt{r}} = \frac{\sqrt{r}}{r}$$

$$\sin \alpha = \frac{1}{r}$$

$$r \sin \alpha = \frac{r d}{r} \sin \alpha = d$$

$$r d \sin \alpha = d$$

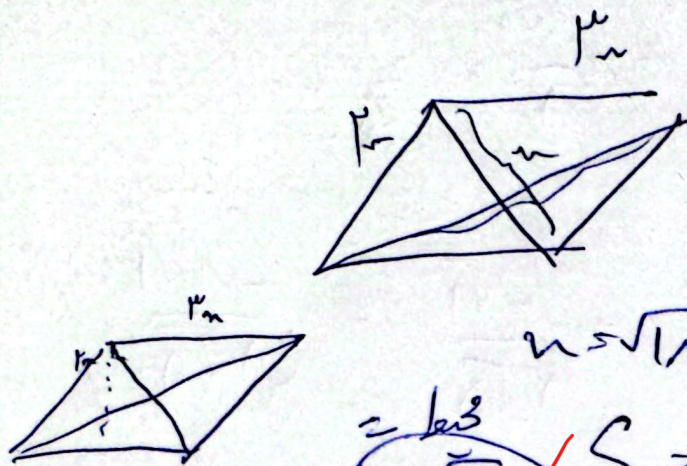


$$\frac{1}{r} \times AB \cdot BC \cdot \sin \alpha$$

$$\frac{1}{r} \times BM \times BN \cdot \sin \alpha = r$$

$$r_{BM} + r_{BN} = \frac{AB \cdot AC}{BC}$$

$$r_{BM} = \frac{AB \cdot AC}{BC}$$



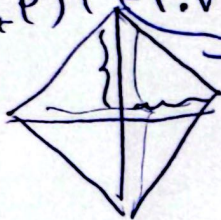
$$r \times r \times \frac{1}{r} \times \frac{1}{r} = 4n \times n \times \frac{1}{r} \quad (\checkmark)$$

$$r \times r = \frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} = \frac{1}{r^3} \quad (r)$$

$$n = \sqrt{12}$$

$$(1 \times r \times r) \times \frac{1}{r} = 1 \times \sqrt{12} \quad (\checkmark)$$

$$S = \frac{1}{r} \times r \times r \times \frac{1}{r} = \frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} = \frac{1}{r^3}$$



$$r \times S = r \times \frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} = \frac{1}{r^3}$$

$$r \times r = \frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} = \frac{1}{r^3}$$

$$r \times r = \frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} = \frac{1}{r^3}$$

$$\frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} = \frac{1}{r^3}$$

$$\frac{1}{r} \times V \times \frac{1}{r} \times \sin \alpha$$

$$\frac{1}{r} \times \frac{1}{r} \times V \times \sin \alpha$$

$$1 \times \sin \alpha = \frac{1}{r} \times \sin \alpha - \frac{1}{r} \times V$$

$$\sin \alpha = \frac{1}{r}$$

$$r \times \sin \alpha = \frac{1}{r} \times V$$

$$\tan = \frac{\sqrt{r}}{r}$$

$$\frac{1}{r} \times \frac{1}{r} = \frac{1}{r^2}$$

الف) $\cos^2 \alpha = 1 - \sin^2 \alpha \rightarrow \cos^2 \alpha = \frac{9}{10} \xrightarrow{\text{بجواب}} \cos \alpha = -\frac{\sqrt{10}}{10}$ ١٢

$$\cos\left(\frac{11\pi}{4} + \alpha\right) = \cos\left(3\pi + \left(-\frac{\pi}{4} + \alpha\right)\right) = -\cos\left(\alpha - \frac{\pi}{4}\right)$$

$$= -\left(\cos \alpha \cos \frac{\pi}{4} + \sin \alpha \sin \frac{\pi}{4}\right) = -\left(-\frac{\sqrt{10}}{10} \times \frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{10} \times \frac{\sqrt{2}}{2}\right) = \frac{3}{5}$$

ب) $1 + \frac{\tan^2 \alpha}{\frac{1}{49}} = \frac{1}{\cos^2 \alpha} \xrightarrow{\text{بجواب}} \cos \alpha = \frac{\sqrt{7}}{10} \xrightarrow{\sin^2 \alpha + \cos^2 \alpha = 1} \sin \alpha = \frac{\sqrt{3}}{10}$

$$\sin\left(\frac{13\pi}{4} + \alpha\right) = \sin\left(3\pi + \frac{\pi}{4} + \alpha\right) = -\sin\left(\frac{\pi}{4} + \alpha\right) \xrightarrow{\text{بجواب}} -\frac{4}{5}$$

$$S_{ABC}^{\Delta} = \frac{1}{2} AB \times \Delta n \times \sin \hat{B}$$

$$S_{BMN}^{\Delta} = \frac{1}{2} BM \times r_n \times \sin \hat{B}$$

$$\rightarrow \frac{S_{ABC}^{\Delta}}{S_{BMN}^{\Delta}} = \frac{\Delta n \times AB}{r_n \times BM} = 4$$

$$\frac{BM}{AB} = \frac{2}{9} \rightarrow \frac{\overbrace{BM}^{\Delta n}}{\underbrace{AM + BM}_{r_n}} = \frac{2}{9} \rightarrow \frac{BM}{AM} = \boxed{\frac{2}{7}}$$