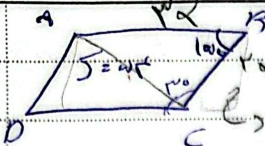


باران شرفی دلاس اس سہری نسبت و ششم

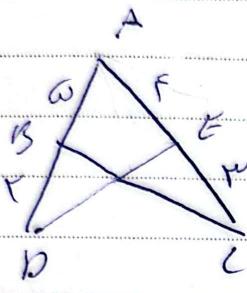


$$\frac{AB}{BC} = \frac{h}{r}$$

$$S_{ABCD} = S_{ABC} + S_{ADC} \rightarrow r \times \frac{1}{2} \times (a+b) \times h = \omega r^2 \rightarrow r^2 = \frac{\omega r}{a+b} \rightarrow r = \frac{\omega}{a+b}$$

سوال ۱:
 $r^2 = \frac{\omega}{a+b} \rightarrow r = \frac{\omega}{a+b}$

$$P = \frac{1}{2} \times (a+b) \times r = \frac{1}{2} \times (a+b) \times \frac{\omega}{a+b} = \frac{\omega}{2}$$



$$S_{ABC} - S_{ADE} = \omega \quad \tan \hat{A} = ? \quad \hat{A} < 90^\circ \quad \text{سوال ۲}$$

$$\sin \hat{A} = \frac{1}{r} (\sin \hat{A} \times \omega \times v) \quad \sin \hat{A} = \frac{1}{r} (\sin \hat{A} \times v \times c)$$

$$\frac{\sin \hat{A} \times \omega \times v}{\sin \hat{A} \times v \times c} = \frac{\omega}{c} \rightarrow \frac{\omega}{c} = \frac{\omega}{c} \rightarrow c = v$$

$$S_{ADE} = \frac{1}{2} \times \sin \hat{A} \times v \times c \rightarrow \sin \hat{A} = \frac{1}{r} \rightarrow \hat{A} = 30^\circ \rightarrow \tan \hat{A} = \frac{v}{r}$$

$$\frac{|\sin \alpha|}{\cos \alpha} = -\frac{1}{\cot \alpha} \quad \frac{1}{\sqrt{\cos^2 \alpha}} = \frac{1 + \sin \alpha}{|\cos \alpha|} \quad \text{سوال ۳}$$

$$\frac{|\sin \alpha|}{\cos \alpha} = \frac{\sin \alpha}{\cos \alpha}$$

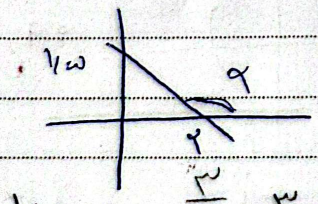
$$|\sin \alpha| = -\sin \alpha$$

$$\sin \alpha < 0$$

$$\frac{1}{\sqrt{\cos^2 \alpha}} = \frac{1 + \sin \alpha}{|\cos \alpha|}$$

$$-\frac{\sin \alpha}{\cos \alpha} = \frac{\sin \alpha}{|\cos \alpha|} \rightarrow \cos \alpha < 0$$

سوال ۴: $\sin \alpha < 0$ و $\cos \alpha < 0$



$$\tan\left(\frac{\pi}{2} - \alpha\right) = ? \quad \cot \alpha = \tan\left(\frac{\pi}{2} - \alpha\right)$$

سوال ۴

$$\frac{1/\omega}{0-r} = \frac{r}{r} = \frac{r}{r}$$

$$\tan \alpha = -\frac{r}{r}$$

$$\frac{r \cos(\frac{\pi}{2} - \alpha) - r \sin(\alpha)}{\sin(\frac{\pi}{2} - \alpha) - \cos(\frac{\pi}{2} + \alpha)} = \frac{r \cos(\frac{\pi}{2} - \alpha) - r \sin(\alpha)}{\sin(\frac{\pi}{2} - \alpha) - \cos(\frac{\pi}{2} + \alpha)}$$

سوال ۵

$$\frac{-r \sin \alpha - r \sin \alpha}{-r \sin \alpha} = \frac{-\omega \sin \alpha}{-r \sin \alpha} = \frac{\omega}{r}$$

Answer

$$\frac{\sin(\frac{\pi}{r} + \alpha) - \sin(\alpha - \pi)}{\tan^2 \alpha - 1} = \frac{\cos \alpha = \frac{r}{p}}{\frac{1}{r} - \frac{1}{p} = \frac{p-r}{rp}}$$

$$\frac{1}{r} = \frac{p-r}{rp} \Rightarrow \frac{1}{r} = \frac{p}{rp} - \frac{r}{rp} \Rightarrow \frac{1}{r} = \frac{p}{rp} - \frac{1}{p}$$

$$\frac{1}{r} + \frac{1}{p} = \frac{p}{rp} \Rightarrow \frac{p+r}{rp} = \frac{p}{rp} \Rightarrow p+r = p \Rightarrow r = 0$$

∴ 4 سوال

$$\sin \alpha = r \cos \alpha \Rightarrow \sin^2 \alpha = r^2 \cos^2 \alpha$$

$$\sin^2 \alpha + \cos^2 \alpha = 1 \Rightarrow r^2 \cos^2 \alpha + \cos^2 \alpha = 1 \Rightarrow \cos^2 \alpha (r^2 + 1) = 1$$

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

∴ 1 سوال

$$r m n + (m^2 - 1) y = r$$

$$y = \frac{r}{m^2 - 1} - \frac{r m}{m^2 - 1}$$

$$\tan \gamma = \sqrt{r} \Rightarrow \frac{r m}{m^2 - 1} = \sqrt{r} \Rightarrow \sqrt{r} m^2 - \sqrt{r} = -r m$$

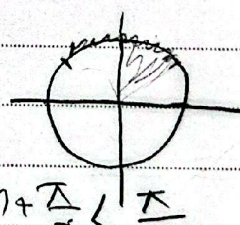
$$\sqrt{r} m^2 + r m - \sqrt{r} = 0$$

$$|m_1 - m_2| = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{r^2 + 4r^2}}{\sqrt{r}} = \frac{\sqrt{5r^2}}{\sqrt{r}} = \sqrt{5r}$$

∴ 1 سوال

$$\tan\left(\frac{\pi}{r} n\right) = \frac{1-m}{r+m} \quad -\frac{\pi}{r} < n < \frac{\pi}{r}$$

$$-\frac{\pi}{r} < n < \frac{\pi}{r} \Rightarrow -\frac{\pi}{r} < -n < \frac{\pi}{r} \Rightarrow 0 < n + \frac{\pi}{r} < \frac{\pi}{r}$$

$$0 < \frac{1-m}{r+m} < 1 \Rightarrow -r < m < r$$


∴ 9 سوال

$$\tan(r\theta_0) \cos(r\theta_0) + \tan(r\theta_0) \sin(r\theta_0) = ?$$

$$\tan(r\pi - \theta_0) \cos(r\pi + \theta_0) + \tan\left(\frac{\omega \pi}{r} + \theta_0\right) \sin\left(r\pi + \frac{\pi}{r} + \theta_0\right)$$

$$-\tan(\theta_0) \times -\cos(\theta_0) + -\cot(\theta_0) \times \frac{1}{r} \cos(\theta_0)$$

$$-\sqrt{r} \times -\frac{\sqrt{r}}{r} + -\frac{\sqrt{r}}{r} \times \frac{\sqrt{r}}{r} = \frac{r}{r} + -\frac{r}{r} = 0$$

Arman