

مسئله ۱۵ گامی کلیف ۱۲ و ۱۵

AC = درونی شود $\rightarrow T = \frac{\pi}{4} = \frac{\pi}{4}$ سوال ۱ - $S = h \times \frac{\pi}{4}$

$B \rightarrow \alpha = 0 \rightarrow y = \tan(\frac{\pi}{4}) = 1$ جواب $\rightarrow \frac{1 \times \frac{\pi}{4}}{2} = \frac{\pi}{8}$ $\checkmark$

درگاه ۱۲ و ۱۵ $\rightarrow$ سوال ۲ -

$\rightarrow \frac{4}{9} - \frac{1}{2} S_{\alpha} - \frac{1}{4} (1 - S_{\alpha}^2) = 0 \xrightarrow{\times 4} 4 S_{\alpha}^2 - 2 S_{\alpha} + 1 = 0$

$\rightarrow S_{\alpha} = \frac{1}{2}$ $\rightarrow \alpha = \frac{\pi}{6}$ $\rightarrow \tan \alpha = \frac{1}{\sqrt{3}}$ $(1 + dy^2 \alpha = \frac{9}{1})$ جواب $\checkmark$

سوال ۳ - $\sin \alpha > \cos \alpha \rightarrow \alpha > \frac{\pi}{4}$

$\rightarrow S_{\alpha} > C_{\alpha}$

$\ln S_{\alpha} - \ln(1 - S_{\alpha}) = \ln \frac{S_{\alpha}}{1 - S_{\alpha}} = \ln e \rightarrow \frac{S_{\alpha}}{1 - S_{\alpha}} = e \rightarrow \frac{S_{\alpha}}{C_{\alpha}} = e \rightarrow \frac{S_{\alpha}}{C_{\alpha}} = e$ $\checkmark$

$S_{\alpha} = \frac{e}{\sqrt{1+e^2}}, C_{\alpha} = \frac{1}{\sqrt{1+e^2}} \rightarrow S_{\alpha} - C_{\alpha} = \frac{e-1}{\sqrt{1+e^2}} = \frac{e-1}{\sqrt{1+e^2}}$ جواب

سوال ۴ - $S_{\alpha}^2 + 1 - S_{\alpha}^2 = \frac{4}{5} \rightarrow S_{\alpha}^2 - S_{\alpha}^2 = -\frac{1}{5}$

$C_{\alpha}^2 + S_{\alpha}^2 \Rightarrow (1 - S_{\alpha}^2) + S_{\alpha}^2 = S_{\alpha}^2 - S_{\alpha}^2 + 1 = \frac{4}{5}$ جواب $\checkmark$

سوال ۵ - $\sin \alpha \tan \alpha - \frac{1}{\cos \alpha} = \frac{S_{\alpha}^2 - 1}{C_{\alpha}} \rightarrow \ominus$

$\frac{3 S_{\alpha} + S_{\alpha} C_{\alpha}}{2 - 2 S_{\alpha}^2} \rightarrow \frac{S_{\alpha} (3 + C_{\alpha})}{2(1 - S_{\alpha}^2)} \Rightarrow \frac{S_{\alpha} C_{\alpha}}{S_{\alpha} C_{\alpha}} \rightarrow \frac{C_{\alpha}}{C_{\alpha}} = 1$ $\checkmark$

$$\frac{r a_1 + r g_1}{g a a_1} \text{ s. } \xrightarrow{\text{صورت مشترک}} r a a = -r g a \rightarrow \lg a = -\frac{r}{c}$$

$$\cot a = -\frac{c}{r}$$

$$dy + \cot a = -\frac{r}{c} - \frac{r}{r} = \left(-\frac{1c}{r}\right) \rightarrow \text{جواب}$$

(۲) ✓

$$1 + g a = 1 + a r = r a r$$

$$g a + g b = r g \left(\frac{a+b}{r}\right) a \left(\frac{a-b}{r}\right)$$

$$g a + g b = r g \left(\frac{a+b}{r}\right) a \left(\frac{a-b}{r}\right) = r g a a r \rightarrow a r$$

$$\frac{\sqrt{r a r}}{a r} = \frac{a r \cdot \sqrt{r}}{a r} = (\sqrt{r}) \rightarrow \text{جواب (۲) ✓}$$

$$a r a = \frac{1 - \lg r}{1 + \lg r}$$

$$a r a = \frac{1 + a r a}{1 - a r a}, \quad g r a = \frac{1 - a r a}{r}$$

(+)

$$1 - r g a = a r a$$

$$\left(\frac{1}{r}\right) g r a = \left(\frac{1}{r}\right) g r a = \left(\frac{1}{r}\right) g r a = a r a$$

$$r a r - 1 = a r a \Rightarrow \frac{g r a}{g r a} a r a a r a = \frac{1}{r} \cot a$$

$$\frac{1 - \lg r}{1 + \lg r} = a r a$$

(۲) ✓

جواب

$$g a = 1 - r a a \rightarrow g r a r a = 1 \rightarrow (1 - r a a) + a r a = 1$$

$$\rightarrow 1 + a r a - 1 r a a + a r a = 1 \rightarrow 1 + a r a - 1 r a a = -r$$

$$a (r a r - 1) - 1 r a a = 1 + a r a - 1 r a a - a = -r - a = (-1)$$

(۲) ✓

جواب

$$g a \cdot g b = \frac{1}{r} (a r (a - b) - a r (a + b)) \rightarrow g b \cdot g c = \frac{1}{r} (a r (b - c) - a r (b + c))$$

$$Q r A = \frac{Q r A + 1}{r} \Bigg|_{\substack{B+C=N-A \\ B=N-(C+A)}} \Rightarrow \frac{1}{r} (a r (N - (r C + A)) - a r (N - A))$$

$$\frac{1}{r} a r A + \frac{1}{r} = -\frac{1}{r} a r (r C + A) + \frac{1}{r} a r A \rightarrow -\frac{1}{r} a r r C + A = \frac{1}{r} a r r C + A \rightarrow -1$$

$$\rightarrow r C + A = N \rightarrow r C = N - A \rightarrow C = \beta \rightarrow A = N - r \beta - C = N - r \beta - \beta = (N - (r+1)\beta)$$

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