

$$\left(\frac{\sqrt{2}}{2} + \left(-\frac{\sqrt{3}}{2}\right)\right) \cdot \left(\frac{\sqrt{2}}{2} + \frac{\sqrt{3}}{2}\right) = \frac{\sqrt{2}-\sqrt{3}}{2} \cdot \frac{\sqrt{2}+\sqrt{3}}{2} = \frac{-1}{2}$$

$$\frac{1 + \left(\frac{\sqrt{3}}{2}\right)^2}{2\left(-\frac{1}{2}\right)^2 + 2\left(\frac{1}{2}\right)^2} = \frac{1 + \frac{3}{4}}{2 + 1} = \frac{\frac{7}{4}}{3} = \frac{7}{12}$$

$$\sin \alpha = \frac{AH}{CH} \quad \frac{\sqrt{2}}{2} = \frac{AH}{\sqrt{2}} \rightarrow AH = 1 \quad \frac{\sqrt{2}}{2} = \frac{AH}{\sqrt{2}} \Rightarrow \left(\frac{\sqrt{2}}{2}\right)^2 + 2 = (2\sqrt{3})^2$$

$$AHC: \tan \alpha = \frac{AH}{CH} \rightarrow \frac{\sqrt{3}}{3} = \frac{AH}{9} \rightarrow AH = 3\sqrt{3} \rightarrow ADH: \sin B = \frac{AH}{AD}$$

$$\sin B = \frac{3\sqrt{3}}{6\sqrt{3}} = \frac{\sqrt{3}}{2} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{6}}{2} \rightarrow B = 45^\circ$$

$$\tan \alpha = \frac{AB}{BD} = \sqrt{3} = \frac{5\sqrt{3}}{BD} \rightarrow BD = 5 \rightarrow ABC: \tan \alpha = \frac{AB}{BC} = \frac{\sqrt{3}}{3}$$

$$BC = 15 \quad \alpha = BC - BD = 15 - 5 = 10$$

$$\cos \alpha = \frac{1}{\sqrt{3}} = \frac{2}{BC} \rightarrow BC = 2\sqrt{3} \quad 1 + 12 = 13 \quad DE = \sqrt{13}$$

$$\sin \alpha = \frac{1}{\sqrt{13}} \times \frac{\sqrt{13}}{\sqrt{13}} = \frac{\sqrt{13}}{13}$$

$$BC = 1 \quad \cos \alpha = \frac{\sqrt{3}}{2} = \frac{x}{1} \rightarrow x = \frac{\sqrt{3}}{2}$$

$$\frac{AB}{AC} = \frac{\frac{1+\sqrt{3}}{2}}{\frac{1}{\sqrt{2}}} = \frac{\sqrt{3}+1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{6}+\sqrt{2}}{2}$$

$$\frac{S_{BCD}}{S_{ABE}} = \frac{\frac{1}{2} \times 3 \times 4 \times \cancel{B}}{\frac{1}{2} \times 2 \times 8 \times \cancel{B}} = \frac{12}{8} = \frac{3}{2}$$

در سوال ۵ را به یکس نوشتن جواب آن درست است

$$\text{الف) } \cos \alpha \rightarrow r_x r_x \sin 120^\circ = 12 \times \frac{\sqrt{3}}{2} = 6\sqrt{3} \quad \frac{6\sqrt{3}}{2}$$

$$\text{ب) } \begin{bmatrix} 1 & \omega \\ 1 & \omega^2 \end{bmatrix} \times \begin{bmatrix} 1 \\ 1 \end{bmatrix} + \begin{bmatrix} 1 & \omega \\ 1 & \omega^2 \end{bmatrix} \times \begin{bmatrix} 1 \\ 1 \end{bmatrix}$$

$$\Rightarrow \left[\frac{1}{2} \times \frac{\sqrt{3}}{2} \times \frac{1}{2} \times \frac{1}{2} \right] \times \frac{1}{2} + \left[\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{\sqrt{3}}{2} \right] \times \frac{1}{2} = \frac{\sqrt{3}}{2} + \frac{\sqrt{3}}{2}$$

$$\frac{\Delta y}{\Delta x} = m \quad m = \frac{2-1}{1+1} = \frac{1}{2} = \frac{1}{2} \quad \tan \frac{1}{2}$$

$$\tan \alpha \rightarrow 1 = \frac{1}{\cos \alpha} = \frac{1}{2} + 1 = \frac{3}{2} \quad \frac{3}{2} = \frac{1}{\cos \alpha}$$

$$\cos \alpha = \frac{2}{3} \rightarrow \cos \alpha = \frac{2}{\sqrt{5}} \times \frac{\sqrt{5}}{\sqrt{5}} = \frac{2\sqrt{5}}{5}$$

$$y = 2x + 5 \quad b = \frac{5}{2} \quad y = x + \frac{5}{2}$$

$$m = \tan 120^\circ = -\sqrt{3} \quad m.b = \frac{-\sqrt{3}}{2}$$

$$f\left(\frac{2\pi}{9}\right) = \cos\left(\pi + \frac{2\pi}{9}\right) + \sin\left(\frac{\pi}{9} - \frac{2\pi}{9}\right) - \tan\left(\frac{3\pi}{9} + \frac{2\pi}{9}\right)$$

$$f\left(\frac{2\pi}{9}\right) = \cos\left(\frac{2\pi}{9}\right) + \sin\left(\frac{2\pi}{9}\right) + \cos\left(\frac{2\pi}{9}\right)$$

$$\cos\left(\frac{2\pi}{9}\right) = \cos(120^\circ) = \frac{1}{2} \times \frac{2}{\sqrt{3}} = \frac{1}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$\frac{\sin\left(\pi + \frac{\pi}{4} + x\right) + \cos\left(\pi - \frac{\pi}{4} - x\right)}{\cos\left(\pi + \pi + x\right) + \sin\left(\pi - x\right)}$$

$$\cos(\pi + \pi + x) = \cos(2\pi + x)$$

$$\cos x - \sin x = 1$$

$$-\cos x - \sin x$$

عبارت را ساده کنید

$$\sin(x) = \sin(x + 2\pi)$$

دوره تناوب