

14,0

ارسیا از دی کلاس دهم B بسر

الف) $\sin 135^\circ = (\frac{\pi}{\gamma} + 45^\circ) \Rightarrow \cos 45^\circ = \frac{\sqrt{2}}{2}$
 $\sin 300^\circ = (\frac{3\pi}{\gamma} + 30^\circ) \Rightarrow -\cos 30^\circ = -\frac{\sqrt{3}}{2}$
 $\cos 315^\circ = (\frac{3\pi}{\gamma} + 45^\circ) \Rightarrow \sin 45^\circ = \frac{\sqrt{2}}{2}$
 $\cos 150^\circ = (\frac{2\pi}{\gamma} - 30^\circ) \Rightarrow -\cos 30^\circ = -\frac{\sqrt{3}}{2}$

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

ب) $3 + \tan^2 45^\circ = 1$
 $4 \cos^2 30^\circ = 4 \times \frac{3}{4} = 3$
 $2 \cos^2 225^\circ = \frac{2}{4} \times 2 = 1$

$\frac{1+1}{3+1} = \frac{1}{2}$

الف) $\overline{AD} = 50 \cdot \sqrt{3} \times \frac{2}{\sqrt{3}} = 100$ $\overline{BD} = 50$

سوال 3 -3

$\frac{50 \cdot \sqrt{3}}{50 + n} = \tan 30^\circ = \frac{1}{\sqrt{3}} \Rightarrow 150 = 50 + n \Rightarrow n = 100$

ب) $\hat{A} = 45^\circ$ $\tan 45^\circ = \sqrt{3} \Rightarrow \frac{BC}{AB=2} \Rightarrow BC = 2\sqrt{3}$

$DC^2 = 1 + 12 \Rightarrow DC = \sqrt{13} \Rightarrow \sin \alpha = \frac{1}{\sqrt{13}}$

الف) $\frac{\sqrt{2}}{2} \times \sqrt{2} = AH = \sqrt{2}$

$\alpha = 30^\circ \Rightarrow \frac{AC}{AH} = \frac{2}{1}$

سوال 2 2

$\cos 30^\circ \Rightarrow \frac{\sqrt{3}}{2}$

ب) $AC = \frac{2}{\sqrt{3}} \times 9 = 6\sqrt{3}$ $AH = 3\sqrt{3}$

$\sin \hat{B} = \frac{AH}{AB} = \frac{3\sqrt{3}}{3\sqrt{9}} = \frac{\sqrt{2}}{2} \Rightarrow \hat{B} = 45^\circ$

الف) $-\frac{\sin \hat{B}}{AC} = \frac{\sin \hat{C}}{AB}$

$\frac{AB}{AC} = \frac{\sin \hat{C}}{\sin \hat{B}} = \frac{\sin \hat{C}}{\frac{1}{2}} \Rightarrow \sin \hat{C} = \sin(45^\circ + 30^\circ)$

$\Rightarrow \sin \hat{C} = \frac{\sin 45^\circ \cos 30^\circ + \cos 45^\circ \sin 30^\circ}{\frac{\sqrt{2}}{2} \cdot \frac{\sqrt{3}}{2}} \Rightarrow \frac{\sin \hat{C}}{\sin \hat{B}} = \frac{\frac{\sqrt{2}}{2} + \frac{\sqrt{3}}{2}}{\frac{1}{2}} = \frac{\sqrt{2} + \sqrt{3}}{2}$

$\frac{\frac{1}{2} \sin \hat{B} \times EB \times AB}{\frac{1}{2} \sin \hat{B} \times BE \times BD} = \frac{4}{9}$

$$\text{الف) } 4 \times 3 \times \sin 120^\circ = \frac{4}{1} \times 3 \times \frac{\sqrt{3}}{2} = 6\sqrt{3}$$

-8

$$\text{ب) } \frac{3 \times \frac{4}{1} \times \frac{\sqrt{3}}{2}}{1} = 6\sqrt{3}$$

(2)

$$\tan \theta = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1}{1}$$

-9

$$1 + \tan^2 \theta = \frac{1}{\cos^2 \theta} \Rightarrow \frac{2}{1} = \frac{1}{\cos^2 \theta} \Rightarrow \cos \theta = \frac{1}{\sqrt{2}}$$

(2)

$$y = kx + a \rightarrow m = 1 \rightarrow \tan \theta = 1 \rightarrow \theta = 45^\circ \rightarrow y = mx + b \rightarrow m = \tan 45^\circ = 1$$

$$b = \frac{a}{1} \quad m = \tan 45^\circ = 1$$

-10

$$y = 1x + a \Rightarrow y = x + \frac{a}{1} \quad mb = \frac{a}{1} \times (-\sqrt{2}) = -\frac{a\sqrt{2}}{1}$$

(10)

$$y = \frac{-\frac{a}{1}}{x} + \frac{a}{1} = 0 \quad mb = \sqrt{2} \times \frac{a}{1} = \frac{a\sqrt{2}}{1}$$

$$f(x) = -\cos x + \cos x + \cot x = \cot x$$

-9

$$f\left(\frac{\pi}{4}\right) = \cot 45^\circ = 1$$

(2)

$$\frac{\sin\left(\frac{1}{2}\pi + x\right) + \cos\left(\frac{3}{2}\pi - x\right)}{\cos(\pi + x) - \sin(2\pi - x)} = \frac{\cos x - \sin x}{-\cos x + \sin x} = -1$$

-10

(2)