

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره ۱/۲ کلاس نام و نام خانوادگی

الف) $\frac{27}{180} = \frac{x}{\pi} \rightarrow x = \frac{10}{10}\pi$

ب) $\frac{125}{180} = \frac{x}{\pi} \rightarrow x = \frac{25\pi}{36}$

ج) $\frac{\frac{5\pi}{18}}{\pi} = \frac{x}{180} \rightarrow \frac{5}{18} = \frac{x}{180} \rightarrow x = 75^\circ$

د) $\frac{\frac{5\pi}{9}}{\pi} = \frac{x}{180} \rightarrow \frac{5}{9} = \frac{x}{180} \rightarrow x = 100^\circ$

$\frac{\frac{a\pi}{\lambda}}{\pi} = \frac{x}{180} \rightarrow \frac{a}{\lambda} = \frac{x}{180} \rightarrow x = 22.5a$

$\frac{\frac{12.5a}{9}}{20} = \frac{xy}{180} \rightarrow \frac{12.5a}{180} = \frac{y}{180} \rightarrow y = 12.5a$

$10a + 22.5a + 12.5a = 180 \rightarrow 45a = 180 \rightarrow a = 4^\circ$

الف) $\cos 90^\circ \cos 30^\circ - \cos 30^\circ \cos 40^\circ = 1 \times 1 + 1 \times 1 = 2$

ب) $\frac{\left(\frac{1}{\sqrt{2}}\right)^2 + 1^2 + (\sqrt{3})^2}{\sqrt{2} - \frac{\sqrt{3}}{2}} = \frac{\frac{1}{2} + \frac{4}{2} + \frac{9}{2}}{\frac{\sqrt{2}}{2} - \frac{\sqrt{3}}{2}} = \frac{\frac{14}{2}}{\frac{\sqrt{2} - \sqrt{3}}{2}} = \frac{14}{\sqrt{2} - \sqrt{3}} \rightarrow \frac{14}{\sqrt{2} - \sqrt{3}} \times \frac{\sqrt{2} + \sqrt{3}}{\sqrt{2} + \sqrt{3}} = \frac{14\sqrt{5}}{5}$

$\sin^2 \theta = -\frac{1}{4} \times \frac{1}{4} + \frac{\sqrt{3}}{4} \times \frac{\sqrt{3}}{4} = -\frac{1}{16} + \frac{3}{16} = \frac{2}{16} = \frac{1}{8} \leftarrow \sin^2 \theta$

$\sin^2 \theta + \cos^2 \theta = 1 \rightarrow \cos^2 \theta = 1 - \sin^2 \theta = 1 - \frac{1}{8} = \frac{7}{8} \leftarrow \cos^2 \theta$

$\tan^2 \theta = \frac{\sin^2 \theta}{\cos^2 \theta} = \frac{\frac{1}{8}}{\frac{7}{8}} = \frac{1}{7} \times \frac{8}{1} = 1$

$\tan^2 \theta = 1 \rightarrow \tan \theta = 1$

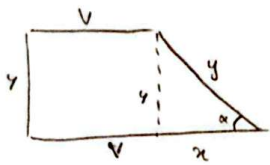
$\frac{\frac{1}{\sqrt{3}} \times (1 - \frac{1}{\sqrt{3}})}{(1 - \frac{1}{\sqrt{3}})(1 - \frac{1}{\sqrt{3}})} = \frac{1}{\sqrt{3}} \times \frac{1}{1} = \frac{1}{\sqrt{3}} = \sqrt{3} = \tan \theta \rightarrow \theta = 90^\circ$

$90^\circ = \frac{\pi}{2}$

$$\frac{\sin \theta}{\cos \theta} = \omega \rightarrow \sin \theta = \omega \cos \theta$$

$$\frac{3 \times \omega \cos \theta - \cos \theta}{\omega \cos \theta - 4 \cos \theta} = \frac{14 \cos \theta}{1 \cos \theta} = 14$$

6

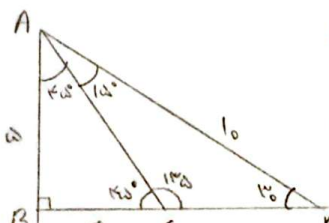


$$\sin \alpha = \frac{y}{10} = \frac{4}{y} \rightarrow y = 10$$

$$x = \sqrt{10^2 - 4^2} = \sqrt{100 - 16} = \sqrt{84} = 8$$

$$\text{مساحت: } 4 + 3 + 3 + 8 + 10 = 38$$

7



$$\sin 30^\circ = \frac{1}{2} = \frac{AB}{10} \rightarrow AB = 5$$

$$\tan 45^\circ = \frac{BC}{AB} = 1 \rightarrow \frac{BC}{5} = 1 \rightarrow BC = 5$$

$$\tan 30^\circ = \frac{AB}{BC + CD} = \frac{1}{\sqrt{3}} \rightarrow \frac{5}{5 + x} = \frac{1}{\sqrt{3}} \rightarrow 5 + x = 5\sqrt{3}$$

$$x = 5\sqrt{3} - 5$$

8

الف) $\left. \begin{array}{l} \text{بالتوازي } \theta \text{ سيزين } \rightarrow \text{ نامية 2 و 3} \\ \text{بالتوازي } \theta \text{ سيزين } \rightarrow \text{ نامية 3 و 4} \end{array} \right\} \text{ نامية سوم}$

9

ب) $\left. \begin{array}{l} \text{بالتوازي } \theta \text{ سيزين } \rightarrow \text{ نامية 1 و 4} \\ \text{بالتوازي } \theta \text{ سيزين } \rightarrow \text{ نامية 1 و 2} \end{array} \right\} \text{ نامية دوم}$

9

$$\tan \alpha = \frac{\sin \alpha}{\cos \alpha} = \frac{1}{4} \rightarrow 4 \sin \alpha = \cos \alpha$$

$$\sin^2 \alpha + \cos^2 \alpha = 1 \rightarrow \sin^2 \alpha + 16 \sin^2 \alpha = 1 \rightarrow 17 \sin^2 \alpha = 1 \rightarrow \sin^2 \alpha = \frac{1}{17} \rightarrow \sin \alpha = \frac{1}{\sqrt{17}}$$

10

$$= \frac{1}{\sqrt{16}} \times \frac{\sqrt{17}}{\sqrt{17}} = \frac{\sqrt{17}}{16}$$