

الف) $90^\circ = \frac{2\pi}{180} \times \frac{\pi}{4} = \frac{2\pi}{180} \times \frac{\pi}{4} = \frac{\pi}{90}$ سؤال 1

ب) $120^\circ = \frac{2\pi}{180} \times \frac{\pi}{3} = \frac{2\pi}{90} = \frac{\pi}{45}$

ج) $\frac{5\pi}{12} \text{ rad} = \frac{5\pi}{12} \times \frac{180}{\pi} = 75^\circ$

د) $\frac{5\pi}{9} \text{ rad} = \frac{5\pi}{9} \times \frac{180}{\pi} = 100^\circ$

$\frac{120a}{9} \times \frac{9}{1} = 120a$ $\frac{a\pi}{180} \times \frac{180}{\pi} = a$ سؤال 2

$10a + 120a + 10a = 180$

$140a = 180 \quad a = \frac{9}{7}$

الف) $\frac{1}{2} \times \frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2} \times \frac{1}{2} = 1 + 2 \times 1 = \frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2} = 0$ سؤال 3

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

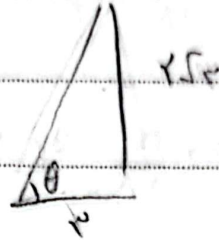
$-\frac{1}{2} \times \frac{1}{2} + \frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{2} = \sin^2 \theta$ سؤال 4

$-\frac{1}{4} + \frac{3}{4} = \frac{2}{4} = \sin^2 \theta$

$\sin = \frac{1}{2} \quad \theta = 30^\circ$

$$2 \times \frac{\sqrt{3}}{3} \times \frac{1}{\frac{1}{\sqrt{3}}} = \tan \theta$$

$$\frac{1}{\sqrt{3}}$$



سوال ۹

$$\frac{2\sqrt{3}}{1} = \frac{2\sqrt{3}}{1} = \frac{2\sqrt{3}}{1} = \tan \theta$$

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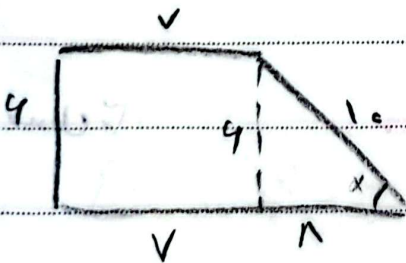
$$\theta = 49.1^\circ$$

$$49.1 \times \frac{\pi}{180} = 0.857 \text{ rad}$$

سوال ۱۰

$$\tan \theta = \frac{\Delta}{\cos \theta} \quad \frac{\tan \theta \cdot \sin \theta}{\cos \theta} = \Delta \quad \sin \theta = \Delta \cos \theta$$

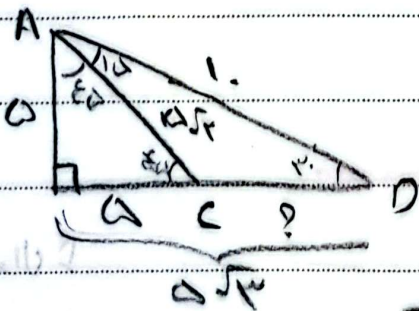
$$\frac{3(\Delta \cos \theta) - \cos \theta}{\Delta \cos \theta - \cos \theta} = \frac{1 \cos \theta}{\cos \theta} = 1$$



$$1 - 34 = 44 - \sqrt{44} = 1$$

$$1 - 4 + 1 + 1 + 4 = 41$$

سوال ۱۱



$$\hat{A} = 45^\circ \quad \frac{1}{1} \times 1 = 1$$

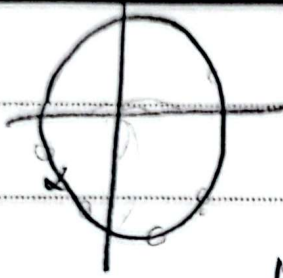
سوال ۱۲

$$2A + 0 = 100$$

$$100 - 2A = 7A = \sqrt{7A} = 2\sqrt{7}$$

$$2\sqrt{7} - A = \sqrt{7} - CD$$

الف



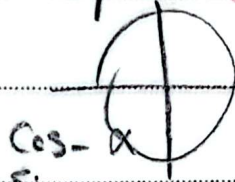
سوال 9
 $\cos \theta < 0$
 $\sin \theta > 0$

اب



سوال 10
 $\cos \theta < 0$
 $\sin \theta > 0$

$$\tan x = \frac{1}{2}$$



$\cos = \alpha$
 $\sin =$
 $\tan =$
 $\cot =$

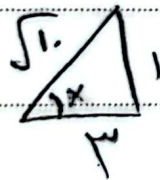
سوال 11
 $\tan^2 + 1 = \frac{1}{\cos^2}$

$$\frac{1}{9} + 1 = \frac{1}{\cos^2}$$

$\frac{10}{1} \cdot \cos = \frac{1}{\sqrt{10}}$

$\sin^2 + \cos^2 = 1$
 $\sin^2 + \left(\frac{1}{\sqrt{10}}\right)^2 = 1$

$\frac{9}{1} + \sin^2 = 1$



$\sin = \frac{1}{\sqrt{5}}$