

۲۷° (ان)

$$27 \times \frac{\pi}{180} = \frac{27\pi}{180} = \frac{\pi}{6}$$

۱۲۵° (ب)

$$125 \times \frac{\pi}{180} = \frac{125\pi}{180} = \frac{25\pi}{36}$$

$$\text{radian} = \text{درج} \times \frac{\pi}{180}$$

ج) $\frac{6\pi}{12}$

$$\frac{6\pi}{12} \times \frac{180}{\pi} = 90^\circ$$

$$\frac{4\pi}{9} \times \frac{180}{\pi} = 80^\circ$$

$$\text{درج} = \text{radian} \times \frac{180}{\pi}$$

~~$$\frac{10a}{9} + \frac{12a}{9} + \frac{22a}{9} = 180$$~~

$$a = 4$$

$$\frac{10a}{9} = \frac{10 \times 4}{9} = \frac{40}{9} \text{ رادین}$$

$$= 44.44^\circ$$

$$\frac{12a}{9} = \frac{12 \times 4}{9} = \frac{48}{9} = 5.33 \text{ رادین}$$

$$= 30.54^\circ$$

$$10a + 12a + 22a = 180$$

$$44a = 180$$

$$\cos 40^\circ \cos 30^\circ - \sin 40^\circ \sin 30^\circ = \cos 70^\circ$$

$$\frac{\tan^2 30^\circ + \tan^2 60^\circ + \tan^2 90^\circ}{\cot 30^\circ - \cot 60^\circ} = \frac{1}{\sqrt{3} - \frac{1}{\sqrt{3}}} = \frac{1}{\frac{\sqrt{3}-1}{\sqrt{3}}} = \frac{\sqrt{3}}{\sqrt{3}-1} = \frac{13\sqrt{3}}{2}$$

خواسته سوال: $\tan \theta = 1$

$$\sin 30^\circ \cos 60^\circ + \cos 30^\circ \sin 60^\circ = \sin \theta$$

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

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

$$\tan \theta = \frac{2 \tan 30^\circ (1 - \tan^2 60^\circ)}{(1 - \cot^2 45^\circ)^2}$$

$$\tan 30^\circ = \frac{1}{\sqrt{3}}$$

$$\cot 45^\circ = 1$$

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$$\tan \theta = \frac{\frac{1}{\sqrt{3}}}{1} = \frac{1}{\sqrt{3}} \Rightarrow \theta = 30^\circ$$

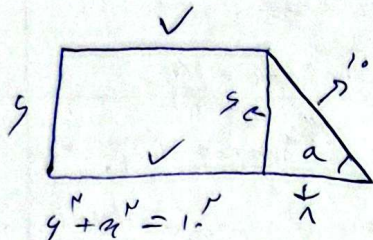
$$\tan \theta = \omega$$

$$\tan \theta = \frac{\sin \theta}{\cos \theta} \Rightarrow \sin \theta = \tan \theta \times \cos \theta$$

$$\sin \theta = \omega \cos \theta$$

$$3 \sin \theta - \cos \theta = 3(\omega \cos \theta) - \cos \theta = 10 \cos \theta - \cos \theta = 9 \cos \theta$$

$$\sin \theta - 2 \cos \theta = \omega \cos \theta - 2 \cos \theta = -1 \cos \theta = -\cos \theta \quad \frac{1 \cos \theta}{\cos \theta} = 1$$



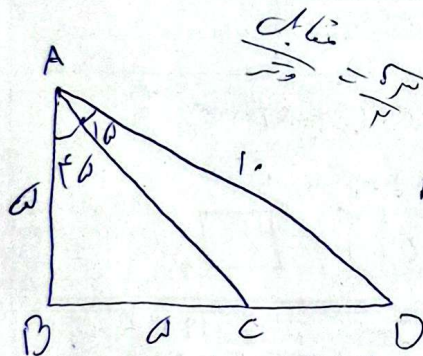
$$9^2 + 4^2 = 100$$

$$a^2 = 100 \quad a = 10$$

$$9 + 7 + 8 + 10 + 7 = 31$$

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

$$\sin = \frac{\text{تقابل}}{\text{وتر}}$$



$$\frac{\text{تقابل}}{\text{وتر}} = \frac{4}{5}$$

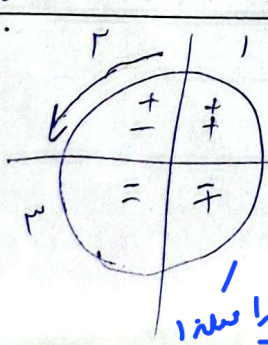
$$\cos 90^\circ = \frac{\text{جوار}}{\text{وتر}} = \frac{1}{1}$$

$$\tan 45^\circ = 1$$

$$\sin 90^\circ = \frac{\sqrt{3}}{2}$$

$$\frac{\sqrt{3}}{2} \times 10 = 5\sqrt{3}$$

$$5\sqrt{3} - 5 = 5(\sqrt{3} - 1)$$



الف) ربع دوم و ربع سوم
ب) ربع اول و ربع دوم
ج) ربع اول و ربع دوم
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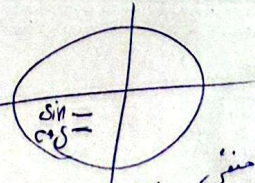
دارد امده باشه بیا ببین!

الف) ربع دوم
ب) ربع دوم

$$\tan \alpha = \frac{1}{3}$$

$$\tan \alpha = \frac{\sin \alpha}{\cos \alpha}$$

$$\sin \alpha = \frac{1}{\sqrt{10}}$$



معین نامی سر کس متناهی

$$\sin^2 \alpha + \cos^2 \alpha = 1$$

$$\sin \alpha = \frac{1}{3} \cos \alpha$$

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

$$\left(\frac{1}{9} \cos^2 \alpha\right) + \cos^2 \alpha = 1$$

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

$$\frac{10}{9} \cos^2 \alpha = 1$$

$$\cos^2 \alpha = \frac{9}{10}$$

$$\cos \alpha = \pm \frac{3}{\sqrt{10}}$$