

۱) $\vec{V} = (R) \text{ rad} \Rightarrow \frac{3\sqrt{2}}{2} = \frac{R}{\pi} \Rightarrow R = \frac{3\pi}{2} \text{ rad}$

۲) $120^\circ = (R) \text{ rad} \Rightarrow \frac{2\pi}{3} = \frac{R}{\pi} \Rightarrow R = \frac{2\pi}{3} \text{ rad}$

۳) $\frac{5\pi}{12} \text{ rad} = (R)^\circ \Rightarrow \frac{5\pi}{12} = \frac{R}{180} \Rightarrow R = 10 \times 5 = 50^\circ$

۴) $\frac{2\pi}{9} \text{ rad} = (R)^\circ \Rightarrow \frac{2\pi}{9} = \frac{R}{180} \Rightarrow R = 2 \times 90 = 180^\circ$



$\frac{120^\circ}{9} = (R)^\circ \Rightarrow \frac{120}{9} = \frac{R}{180} \Rightarrow R = 120 \times \frac{180}{9} = 2400^\circ$

$\frac{20^\circ}{1} = (R)^\circ \Rightarrow \frac{20}{1} = \frac{R}{180} \Rightarrow R = 20 \times 180 = 3600^\circ$

$100 + 120 + 20 = 240 = 180 \Rightarrow \text{error}$

۱) $\cos 45^\circ \cos 45^\circ - \sin 45^\circ \sin 45^\circ = \frac{1}{2} \cdot \frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2} \cdot \frac{1}{2} = \frac{1}{4} - \frac{1}{4} = 0$

۲) $\tan 45^\circ + \tan 45^\circ + \tan 45^\circ = 1 + 1 + 1 = 3$

$\frac{1}{\tan 45^\circ} = \frac{1}{1} = 1$

$\sin 45^\circ \cos 45^\circ = \cos 45^\circ \sin 45^\circ = \sin^2 \theta \Rightarrow \sin \theta = \frac{1}{\sqrt{2}}$

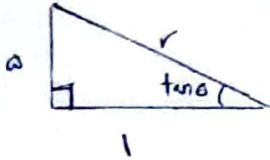
$\frac{1}{\sqrt{2}} = 1 - \cos^2 \theta \Rightarrow \frac{1}{\sqrt{2}} = 1 - \cos^2 \theta \Rightarrow \cos^2 \theta = 1 - \frac{1}{\sqrt{2}} \Rightarrow \cos \theta = \frac{1}{\sqrt{2}}$

$\tan \theta = \frac{\sin \theta}{\cos \theta} = \frac{1/\sqrt{2}}{1/\sqrt{2}} = 1$

$\frac{1 - \tan^2 \theta}{1 + \tan^2 \theta} = \frac{1 - 1}{1 + 1} = 0$

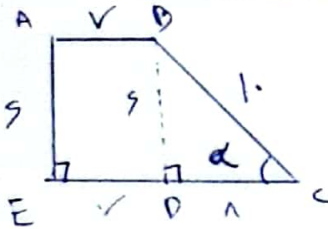
$\frac{1 - \tan^2 \theta}{1 + \tan^2 \theta} = \frac{1 - 1}{1 + 1} = 0$

$$\tan \theta = a = \frac{\text{قابل}}{\text{مجاور}} = \frac{a}{1} \Rightarrow r = \sqrt{a^2 + 1^2} = \sqrt{a^2 + 1} \Rightarrow \sin \theta = \frac{\text{قابل}}{\text{رتر}} = \frac{a}{\sqrt{a^2 + 1}}$$



$$\frac{a}{\sqrt{a^2 + 1}} / \cos \theta = \frac{\text{مجاور}}{\text{رتر}} = \frac{1}{\sqrt{a^2 + 1}} \Rightarrow \frac{\frac{a}{\sqrt{a^2 + 1}}}{\frac{1}{\sqrt{a^2 + 1}}} = \frac{a}{1} = a$$

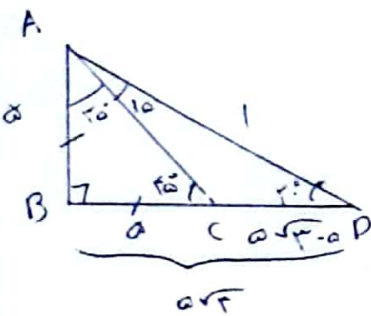
$$\frac{\frac{1}{\sqrt{a^2 + 1}}}{\frac{a}{\sqrt{a^2 + 1}}} = \frac{1}{a} = \frac{1}{\frac{a}{1}} = \frac{1}{a}$$



$$\sin \alpha = \frac{s}{1} \Rightarrow \frac{\text{قابل}}{\text{رتر}} = \frac{s}{1}$$

$$1^2 = s^2 + a^2 \Rightarrow a^2 = 1 - s^2 \Rightarrow a = \sqrt{1 - s^2}$$

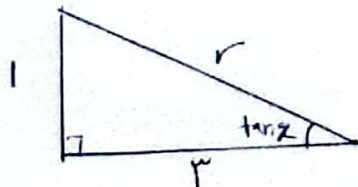
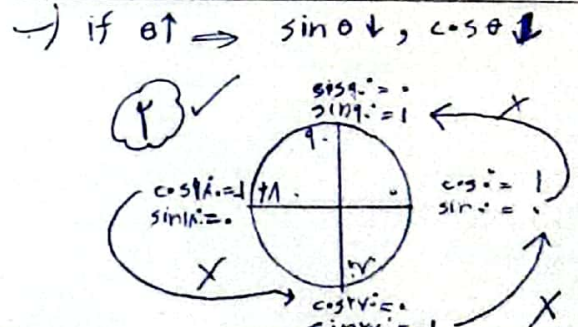
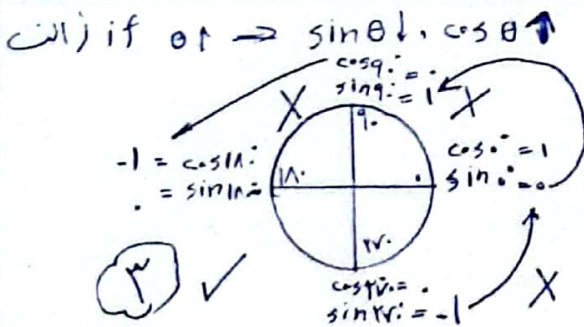
$$\text{المجموع} = s + 1 + a + s = 2s + 1 + \sqrt{1 - s^2}$$



$$\sin \theta = \frac{1}{1} = \frac{\text{قابل}}{\text{رتر}} = \frac{AB}{1} \Rightarrow AB = a = BC$$

$$\cos \theta = \frac{a}{1} = \frac{\text{مجاور}}{\text{رتر}} = \frac{BD}{1} \Rightarrow BD = a = \sqrt{1 - a^2}$$

$$BD = BC + CD \Rightarrow CD = BD - BC = a - a = 0$$



$$\tan \theta = \frac{\text{قابل}}{\text{مجاور}} = \frac{1}{3} \Rightarrow r = \sqrt{3^2 + 1^2} = \sqrt{10}$$

$$\sin \theta = \frac{\text{قابل}}{\text{رتر}} = \frac{1}{\sqrt{10}} = \frac{1}{\sqrt{10}} \Rightarrow \frac{1}{\sqrt{10}} = \frac{1}{\sqrt{10}}$$