

Subject.....

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$$1 - \frac{1}{r} \times \frac{1}{r} + \frac{\sqrt{r}}{r} \times \frac{\sqrt{r}}{r} = \sin^2 \theta \Rightarrow \frac{1}{2} + \frac{r}{2} = \frac{1}{r} = \sin^2 \theta \quad (r)$$

$$+ \frac{1}{\sqrt{r}} = \sin \theta \Rightarrow \pm \frac{\sqrt{r}}{r} = \sin \theta \rightarrow \text{جیب زاویه حاده}$$

$$\Rightarrow \sin \theta = \frac{\sqrt{r}}{r} \Rightarrow \theta = 20^\circ \quad \tan 20^\circ = 1$$

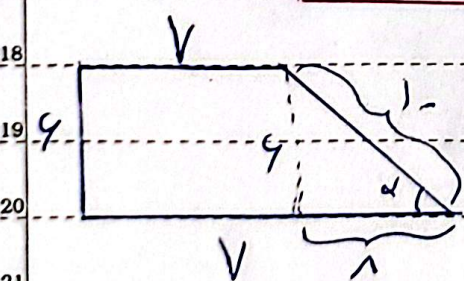
$$\frac{r\sqrt{r}}{r} \left(1 - \frac{1}{r}\right) = \frac{r\sqrt{r}}{r} = \sqrt{r} = \tan \theta = \tan 45^\circ$$

$$\left(1 - \frac{1}{r}\right) \left(1 - \frac{1}{r}\right) = \frac{r}{r} \quad \theta = 45^\circ$$

$$\frac{4.}{1\pi.} = \frac{\text{rad}}{\pi} \Rightarrow \text{rad} = \frac{\pi}{r}$$

$$\tan \theta = 8 \Rightarrow \frac{\sin \theta}{\cos \theta} = 8 \Rightarrow \sin \theta = 8 \cos \theta \quad (r)$$

$$\frac{r \sin \theta - \cos \theta}{\sin \theta - r \cos \theta} = \frac{10 \cos \theta - \cos \theta}{8 \cos \theta - r \cos \theta} = \frac{12 \cos \theta}{\cos \theta} = 12$$



$$\sin \alpha = \frac{\text{ضلع مقابل}}{\text{وتر}} = \frac{4}{10} \quad (r)$$

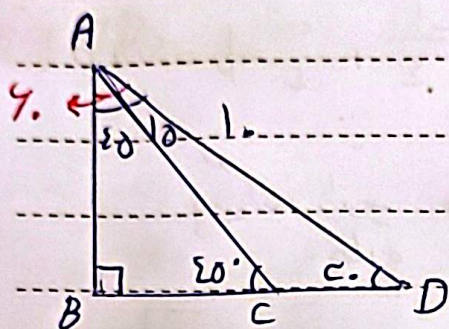
$$(\text{وتر})^2 = (\text{ضلع عمود})^2 + (\text{ضلع مجاور})^2$$

$$10^2 = 4^2 + (\text{ضلع مجاور})^2 \Rightarrow \text{ضلع مجاور} = 10$$

$$\Rightarrow \text{P دوزخه} = V + 4 + V + 1 + 10 = 21$$

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$$\sin 20^\circ = \frac{1}{r} = \frac{AB}{AC} \Rightarrow AB = \delta \quad (1)$$

$$(AB)^2 + (BD)^2 = (AD)^2$$

$$1 + (BD)^2 = 1 \Rightarrow BD = \sqrt{1} = 1$$

$$\sin 20^\circ = \frac{\sqrt{2}}{r} = \frac{AB}{AC} \Rightarrow \frac{\sqrt{2}}{r} = \frac{\delta}{AC}$$

$$\Rightarrow AC = \delta \sqrt{2}$$

$$(AC)^2 = (BC)^2 + (AB)^2 \Rightarrow 0 = (BC)^2 + 1 \Rightarrow BC = \delta$$

$$\Rightarrow BD - BC = CD \Rightarrow 1 - \delta = \delta$$

(ب) ربع دوم

(9) الف) ربع سوم

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

$$1 + \frac{1}{9} = \frac{1}{\sin^2 \theta} = \frac{1}{\cos^2 \theta} \Rightarrow \sin^2 \theta = \frac{9}{10}$$

$$\sin \theta = \pm \frac{3}{\sqrt{10}}$$

$$\sin^2 \theta = 1 - \cos^2 \theta = 1 - \frac{1}{10} = \frac{9}{10} \Rightarrow \sin \theta = \pm \frac{3}{\sqrt{10}}$$