پرسا مرادخانی تکلیف ۱۶ دختران پنجشنبه C

(۱)

$270^\circ = (x)\,rad \to \frac{270}{180} = \frac{x}{\pi} \to x = \frac{3\pi}{2}$

۲۰

$125^\circ = (x)\,rad \to \frac{125}{180} = \frac{x}{\pi} \to x = \frac{25\pi}{36}$

(۳) ✓

$\frac{5\pi}{12}\,rad = (x)^\circ \to \frac{\frac{5\pi}{12}}{\frac{\pi}{1}} = \frac{x}{180} \to \frac{5}{12} = \frac{x}{180} \to x = 75^\circ$

$\frac{4\pi}{9}\,rad = (x)^\circ \to \frac{\frac{4\pi}{9}}{\frac{\pi}{1}} = \frac{x}{180} \to \frac{4}{9} = \frac{x}{180} \to x = 80^\circ$

(۲)

$10a^\circ + \frac{125a}{9}$ (۲) گراد $+ \frac{a\pi}{8}$ (۱) رادیان $= 180^\circ$

$\frac{D}{180} = \frac{G}{200} = \frac{Rad}{\pi}$

$10a^\circ + 12{,}5a^\circ + 22{,}5a^\circ = 180$

$45a^\circ = 180 \to a = 4^\circ$

(۳) ✓

① $\to \frac{\frac{a\pi}{8}}{\frac{\pi}{1}} = \frac{D_1}{180} \to D_1 = \frac{180a}{8} = 22{,}5a$

② $\to \frac{\frac{125a}{9}}{\frac{200}{1}} = \frac{D}{180} \to D = \frac{180 \times 125a}{1800} = 12{,}5a^\circ$

$\frac{125a}{1800}$

۳) الف)

$$\frac{1}{۲}\times\frac{\sqrt{۳}}{۲}-\frac{\sqrt{۳}}{۲}\times\frac{1}{۲}-۱+۲=\boxed{۱}$$

ب)

$$\frac{\frac{\sqrt{۳}}{۳}\times\frac{\sqrt{۳}}{۳}+۱\times۱+\sqrt{۳}\times\sqrt{۳}}{\sqrt{۳}-\frac{\sqrt{۳}}{۳}}=\frac{\frac{۳}{۹}+۱+۳}{\frac{۲\sqrt{۳}}{۳}}=\boxed{\frac{۱۳\sqrt{۳}}{۹}}$$

۲ ✓

۴)

$$\to \frac{1}{۴}+\frac{1}{۴}=\sin^۲\theta \to \frac{1}{۲}=\sin^۲\theta \to \sin\theta=\frac{\sqrt{۲}}{۲}$$

$$\theta=۴۵^\circ \qquad \tan\theta=\tan ۴۵^\circ=\frac{\frac{\sqrt{۲}}{۲}}{\frac{\sqrt{۲}}{۲}}=\boxed{۱}$$

۲ ✓

۵)

$$۲\left(\frac{\sqrt{۳}}{۳}\right)\left(۱-\left(\frac{\sqrt{۳}}{۳}\right)^۲\right)=\frac{۲\sqrt{۳}}{۳}\times\frac{۲}{۳}=\frac{۴\sqrt{۳}}{۹} \Rightarrow \text{صورت}$$

$$\left(۱-\left(\frac{\sqrt{۳}}{۳}\right)^۲\right)^۲=\frac{۳۶}{۸۱} \Rightarrow \text{مخرج}$$

$$\to \frac{\frac{۴\sqrt{۳}}{۹}}{\frac{۳۶}{۸۱}}=\sqrt{۳}=\tan\theta \to \boxed{\theta=۶۰^\circ=\frac{\pi}{۳}}$$

۲ ✓

۶)

$$\tan\theta=۵ \xrightarrow{\div \cos} \frac{\frac{۳\sin\theta}{\cos\theta}-\frac{\cos\theta}{\cos\theta}}{\frac{\sin\theta}{\cos\theta}-\frac{۴\cos\theta}{\cos\theta}}=\frac{۳\tan-۱}{\tan-۴}=\boxed{۱۴}$$

۲ ✓

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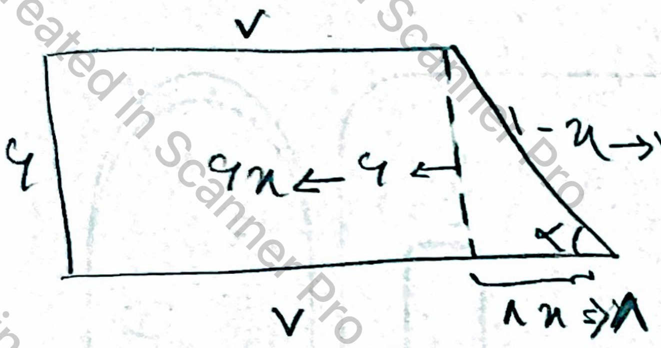
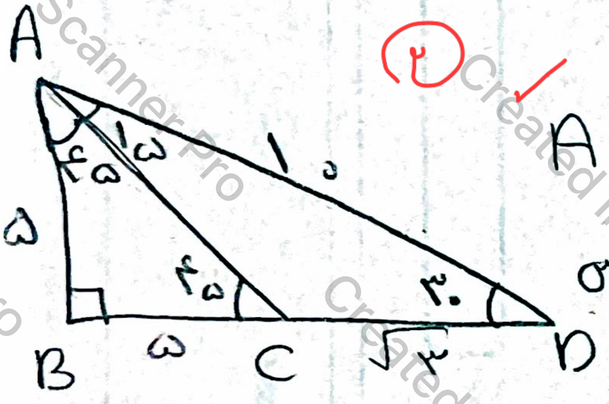
۷



$\sin\alpha = \frac{۶}{۱۰} \to x = ۱$

$P = ۹ + ۷ + ۱۰ + ۸ + ۷ = ۴۱$

۸



۲

$AB = \frac{۱}{۲} \times ۱۰ = ۵$

فیثاغورس $= \sqrt{۱۰۰ - ۲۵} = \sqrt{۷۵} = ۵\sqrt{۳} = BD$

$BD = BC + CD = ۵\sqrt{۳}$ [redacted]

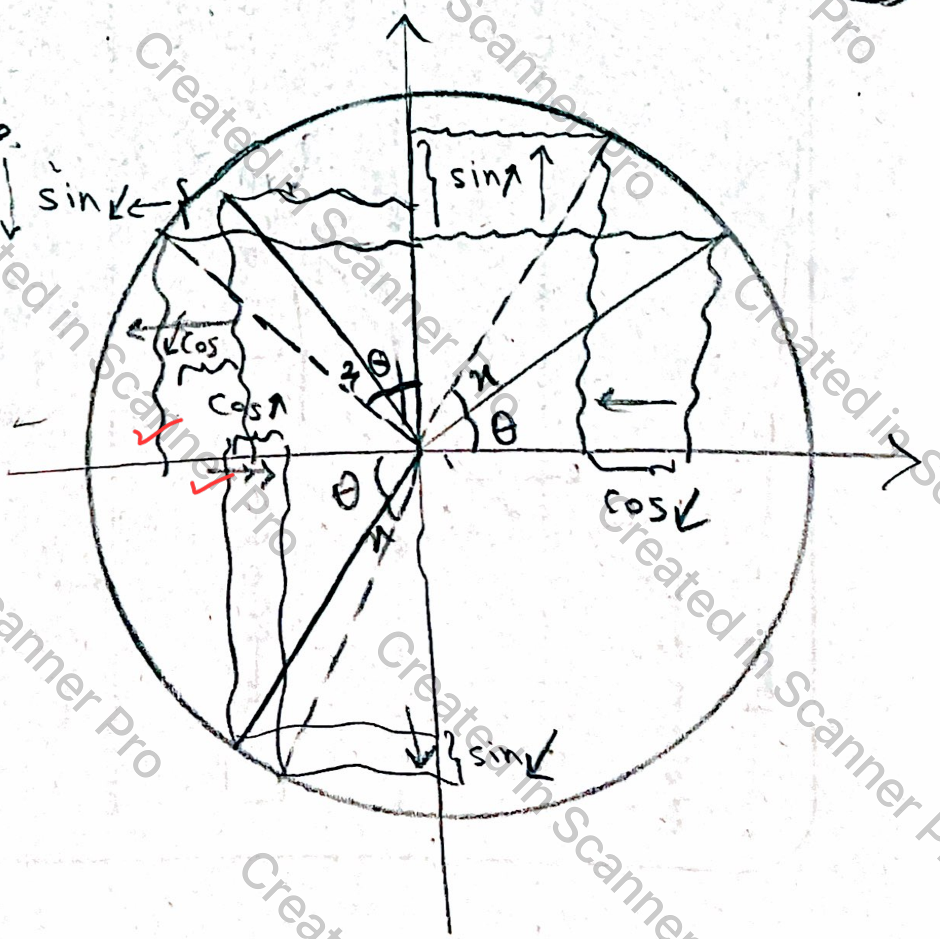
$CD \to ۵\sqrt{۳} - ۵$

$۵(\sqrt{۳} - ۱)$

۲

۹

مشترکند



ناصح

دوم و سوم

۲

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(۱۰)

$\tan\theta = \frac{1}{3} \rightarrow 1+\tan^2 = \frac{1}{\cos^2} \rightarrow 1+\frac{1}{9} = \frac{1}{\cos^2} \Rightarrow \frac{10}{9} = \frac{1}{\cos^2}$

$\rightarrow 10\cos^2 = 9 \rightarrow \cos = -\frac{3}{\sqrt{10}} \rightarrow$ منفی ربع ۳

$\cos^2 + \sin^2 = 1 \rightarrow \frac{9}{10} + \square = 1 \rightarrow \sin^2 = \frac{1}{10}$

$\sin = \pm\frac{1}{\sqrt{10}} \rightarrow$ ربع ۳ $\sin < 0$

(۲) ✓

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