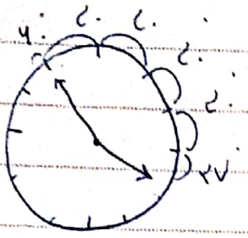
Subject:
Year: Month: Day:

۲۰ زینب قاضی A دهم

page: ( )

سوال 1

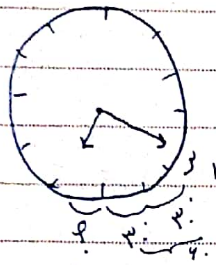


$$۶+۳۰+۳۰+۳۰+۳۰+۲۷ = ۱۵۳$$

$$|۵/۵ m - ۳۰H| \Leftarrow |۵/۵ \times ۵۴ - ۳ \times ۳۰| = |-۲۰۷| , ۲۰۷ \rightarrow ۱۵۳$$

-۳۶۰

سوال 2



الف) $۷۲+۹۱=۸۵^\circ$

ب) $۸۱ = |۵/۵ m - ۳۰ H|$

$$\frac{۱۸}{۹} =$$

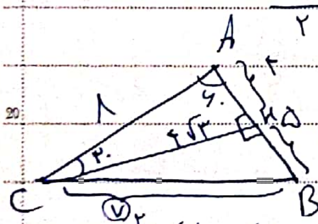
سوال 3

$$\overset{\frown}{|AB|} = \alpha R = \frac{a}{۶} \times ۳ = \frac{a}{۲} =$$

ب) $\Leftarrow ۳+۳+\frac{a}{۲} = ۶+\frac{a}{۲}$

$$\frac{\alpha}{۲} R^۲ \Rightarrow \frac{\frac{a}{۶}}{۲} \times ۳^۲ = \frac{a}{۱۲} \times ۹ = \frac{۳a}{۴}$$

سوال 4



$$CH = \frac{۴^۲}{۱۶} + \frac{CH^۲}{۴۸} = ۶۴$$

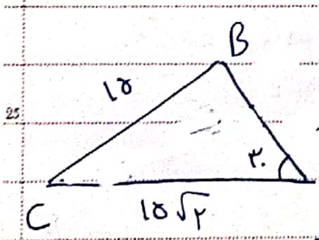
$$CH = \sqrt{۴۸} = ۴\sqrt{۳}$$

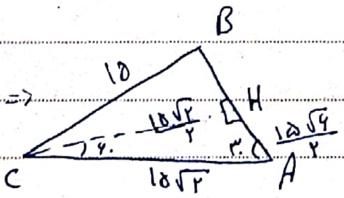
الف) $\frac{۱}{۲} \times ۵ \times ۸ \times \sin ۶۰ = ۱۰\sqrt{۳}$ ، $\frac{\sqrt{۳}}{۲}$

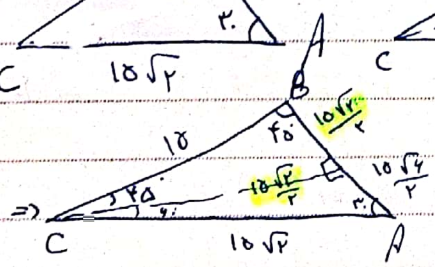
$$۱^۲ + ۴۸ = ۴۹ = CB^۲ \Rightarrow CB = ۷$$

ب) $۵+۸+۷=۲۰$

سوال 5







$$\Rightarrow \left(\frac{۱۵\sqrt{۲}}{۲}\right)^۲ + x^۲ = ۱۵^۲$$

$$\sin ۳۰ = \frac{۱}{۲} \quad \sin ۶۰ = \frac{\sqrt{۳}}{۲}$$

$$x^۲ = ۱۱۲/۵$$

$$x = \frac{۱۵\sqrt{۲}}{۲}$$

$C = ۱۰۵^\circ \quad B = ۴۵^\circ$

$A = ۳۰^\circ$

$$\frac{۴۵}{۱۸۰} = \frac{Rad}{\pi} \Rightarrow \frac{\pi}{۴}$$

$$\frac{۱۰۵}{۱۸۰} = \frac{Rad}{\pi} \rightarrow \frac{۷\pi}{۱۲}$$

Arman

Scanned with CamScanner


$$\frac{\tan(\pi-\alpha)+2\tan(\pi+\alpha)}{\tan(2\alpha-\alpha)-\tan(2\alpha+\alpha)} = \frac{-\tan\alpha+2\tan\alpha}{-\tan\alpha-\tan\alpha} = \frac{2\tan\alpha}{-2\tan\alpha} = -1$$

۶ گزینه ۳


$$\tan\frac{\pi}{12} = a \qquad \tan\frac{\pi}{12} = \tan 15^\circ = a = \cdots$$

گزینه ۳

$$\frac{2\tan 75^\circ + \tan 105^\circ}{2\tan 165^\circ - \tan 255^\circ}$$

$$\tan 75^\circ = \cot 15^\circ = \frac{1}{\tan 15^\circ} = \frac{1}{a}$$

$$\tan 105^\circ = \tan(90+15) = -\cot 15 = -\frac{1}{a} \Rightarrow \frac{\frac{2}{a}-\frac{1}{a}}{3a-\frac{1}{a}} = \frac{\frac{1}{a}}{3a-\frac{1}{a}} = \frac{1}{3a^2-1}$$

$$\tan 255 = \tan(180+75) = \tan 75^\circ = \frac{1}{a}$$

۸- $\tan^2 m$ ؟

$$\frac{\sin x+\cos m}{\sin m-\cos m} + \frac{\sin m-\cos m}{\sin m+\cos m} = 3$$

۷

$$\frac{\sin^2 m+\cos^2 m+2\sin m\cos m+\sin^2 m+\cos^2 m-2\sin m\cos m}{\sin^2 m-\cos^2 m} = 3$$

$$2\sin^2 m-2\cos^2 m = 2\sin^2 m+2\cos^2 m \Rightarrow 4\cos^2 m = \sin^2 m$$

$$\frac{\sin^2 m}{\cos^2 m} = 4$$

۹- $\tan^2 m$ ؟

$$\frac{\sin^2 m-2\cos^2 m+1}{\sin^2 m+2\cos^2 m-1} = 4$$

$$\frac{1-\cos^2 m-2\cos^2 m+1}{1-\cos^2 m+2\cos^2 m-1} = 4 \qquad \frac{-3\cos^2+2}{\cos^2 m} = 4 \qquad -3\cos^2+2=4\cos^2 m$$

$$\cos^2 m = 2$$

$$1+\tan^2 m = \frac{1}{\cos^2} \Rightarrow 1+\tan^2 m = \frac{1}{2}$$

$$\tan^2 m = -\frac{1}{2}$$

۱۰

$$\cos(112/5)\cos^2\frac{1+\cos 45}{2} = \frac{\sqrt{2}+2}{4} = \sqrt{\frac{\sqrt{2}+2}{8}}$$

$$\cos(112/5) = \frac{\sqrt{2}}{2}$$

$$\sin(67/5) \qquad \sin^2 = \frac{1-\cos 135^\circ}{2} \quad , \quad \frac{1+\frac{\sqrt{2}}{2}}{2} = \sqrt{\frac{2+\sqrt{2}}{8}}$$

Arman