

نام و نام خانوادگی
پاسخنامه تشریحی تکلیف شماره ۱۲... کلاس... دهم... دبیر... B

الف) $120^\circ = (x) \text{ Rad}$ $\frac{120}{180} = \frac{R \text{ rad}}{\pi} \rightarrow 20 \text{ Rad} = x \pi \rightarrow R \text{ rad} = \frac{20}{\pi} \pi$

ب) $120^\circ = (x) \text{ Rad}$ $\frac{120}{180} = \frac{R \text{ rad}}{\pi} \rightarrow R \text{ rad} = \frac{20}{\pi} \pi$

ج) $\frac{5}{12} \pi \text{ Rad} = (x)^\circ$ $\frac{\frac{5}{12} \pi}{\pi} = \frac{D}{180} \rightarrow D = 75^\circ$

د) $\frac{5}{9} \pi \text{ rad} = (x)^\circ$ $\frac{\frac{5}{9} \pi}{\pi} = \frac{D}{180} \rightarrow D = 100^\circ$

$\frac{120a}{9} = \frac{D}{180} \rightarrow 2000a = 2000D \rightarrow \frac{20}{9}a = D$ / $\frac{a}{\pi} = \frac{D}{180} \rightarrow \frac{45a}{2} = D$

$\frac{20}{9}a + \frac{45}{2}a + \frac{20}{9}a = \frac{90}{2}a = 45a = 180 \rightarrow a = \frac{180}{45} \Rightarrow 4^\circ = a$

الف) $\cos 40^\circ \cos 40^\circ - \sin 40^\circ \sin 40^\circ - \tan 40^\circ + \cot 40^\circ = 1$

ب) $\frac{\tan 40^\circ + \tan 40^\circ + \tan 40^\circ (\sqrt{3})^2}{(\sqrt{3})^2} = \frac{\frac{1}{\sqrt{3}} + 1 + 3}{\frac{1}{\sqrt{3}} + 1 + 3} = \frac{12}{12} = 1$

صورت سوال را بارت بنویس!
 $-\sin 40^\circ \cos 40^\circ + \cos 40^\circ \sin 40^\circ = \sin \theta$
 $-\frac{1}{2} + \frac{1}{2} = \frac{1}{2} = \frac{1}{2} \rightarrow \sin \theta = \frac{1}{2} / -\frac{1}{2} = \frac{\sqrt{3}}{2} / -\frac{\sqrt{3}}{2} = \sin \theta$

$\theta = (40^\circ, 140^\circ, 220^\circ, 320^\circ)$ $\rightarrow \tan 40^\circ = 1$

$\frac{2 \tan 40^\circ (1 - \tan 40^\circ)}{(1 - \cot 40^\circ)^2} = \frac{2 \tan 40^\circ}{1 - \tan 40^\circ} = \frac{2 \sqrt{3}}{\frac{1}{\sqrt{3}}} = \sqrt{3} = \tan \theta \Rightarrow \theta = 60^\circ$

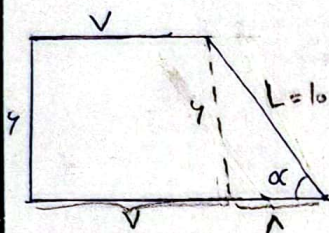
$\frac{4}{\pi} = \frac{R \text{ rad}}{\pi} \rightarrow \frac{\pi}{4} = R \text{ rad}$

$$\tan \theta = \omega$$

$$\frac{(4 \sin \theta - \cos \theta) \div \cos \theta}{(\sin \theta - 4 \cos \theta) \div \cos \theta} = \frac{\frac{4 \sin \theta}{\cos \theta} - 1}{\frac{\sin \theta}{\cos \theta} - 4} = \frac{4 \tan \theta - 1}{\tan \theta - 4} = \frac{1 \times 1}{1} = \boxed{11^c}$$

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

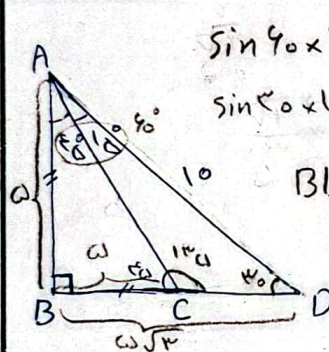


$$\sin \alpha \times 10 = 4$$

$$10^2 - 4^2 = 8^2$$

$$4 + 4 + 10 + 10 = \boxed{38}$$

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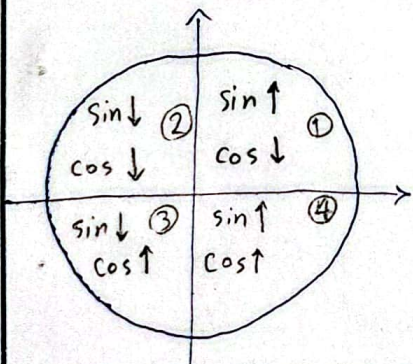


$$\sin 45^\circ \times 10 \rightarrow \frac{\sqrt{2}}{2} \times 10 = \omega \sqrt{3} = BD$$

$$\sin 45^\circ \times 10 \rightarrow \frac{1}{\sqrt{2}} \times 10 = \omega = AB = BC$$

$$BD - BC = \omega \sqrt{3} - \omega = \omega (\sqrt{3} - 1) = CD$$

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المثلثات ← $\uparrow \cos \theta, \downarrow \sin \theta : \uparrow \theta$ (الف)

المثلثات ← $\downarrow \cos \theta, \uparrow \sin \theta : \uparrow \theta$ (ب)

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$$\tan x = \frac{\sin x}{\cos x} = \frac{1}{\sqrt{3}} \rightarrow \sin x = \cos x \rightarrow \sin x = \frac{1}{\sqrt{3}} \cos x$$

$$\sin^2 x + \cos^2 x = 1 \rightarrow \left(\frac{1}{\sqrt{3}} \cos x\right)^2 + \cos^2 x = \frac{1}{9} \cos^2 x + \cos^2 x = \frac{10}{9} \cos^2 x = 1$$

$$\cos^2 x = \frac{9}{10} \rightarrow \cos x = \pm \frac{3}{\sqrt{10}}$$

$$\sin x = \frac{1}{\sqrt{3}} \cos x \Rightarrow \frac{1}{\sqrt{3}} \times \left(-\frac{3}{\sqrt{10}}\right) = -\frac{1}{\sqrt{10}} = \boxed{-\frac{\sqrt{10}}{10}}$$

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