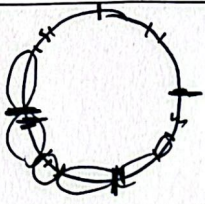


الف)



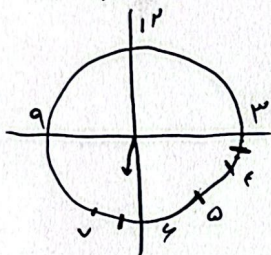
$$20V - 110 = 27$$

ب) $\Delta = |0/0 \text{ M} - 30 \text{ H}|$
 $|20V - 90| = 20V$
 $20V - 110 = 27$

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$$\left(\frac{4 \times 30}{110}\right) + \left(\frac{2 \times 27}{27}\right) + \left(\frac{3 \times 27}{27}\right) = 20V$$

الف)



$$\left(\frac{4 \times 30}{110}\right) + \left(\frac{2 \times 27}{27}\right) + (9) = 11$$

ب) $\Delta = |0/0 (11) - 30 (4)| = |99 - 110| = 11$

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الف) $s = \frac{\alpha}{r} R^2 = \frac{\pi}{12} \times 9 = \frac{9\pi}{12} = \frac{3\pi}{4}$

ب) $\widehat{AB} = \alpha R = \frac{\pi}{4} \times 3 = \frac{\pi}{4}$

مساحت $R \rightarrow \frac{\pi}{4} \times 3 + 3 = 4 + \frac{\pi}{4}$

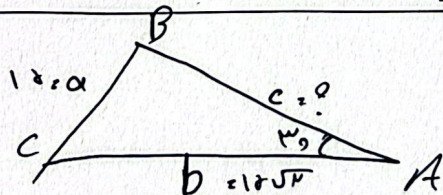
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الف) $s = \frac{1}{r} \times \omega \times A \times \frac{\sin 40^\circ}{\frac{\sqrt{3}}{4}} = 10\sqrt{3}$

ب) $BC = \sqrt{40 + 40 + 40 \left(\frac{1}{4}\right)} = \sqrt{120}$

مساحت $P = \omega + 1 + \sqrt{120} = 13 + \sqrt{120}$

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$\hat{B} + \hat{C} = 180 \rightarrow \hat{B} = 50^\circ, \hat{C} = 180 - 120 - 50 = 10^\circ$
 $\hat{A} = 120 - 100 = 20^\circ$

$\hat{B} = \frac{\pi}{4}$
 $\hat{C} = \frac{\sqrt{2}}{12}$

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$\frac{a}{\sin A} = \frac{b}{\sin B} \rightarrow \frac{10}{\frac{1}{2}} = \frac{10\sqrt{2}}{\sin B} \Rightarrow \sin B = \frac{10\sqrt{2}}{20} = \frac{\sqrt{2}}{2}$

$\rightarrow B = 50^\circ$

$$\frac{-\tan \alpha + v \tan \alpha}{-\tan \alpha - \tan \alpha}, \frac{v \tan \alpha}{-v \tan \alpha} = -1$$

6

$$\frac{\tan \frac{\pi}{v}}{\tan 10^\circ \alpha}$$

$$A = \frac{\frac{v}{a} - \frac{1}{a}}{-va - \frac{1}{a}} = \frac{\frac{1}{a}}{\frac{-(v \tan 10^\circ)}{a}} = \frac{-1}{v \tan 10^\circ}$$

7

$$\begin{cases} \tan v \theta^\circ = \cot \theta^\circ = \frac{1}{a} \\ \tan 10^\circ = -\tan v \theta^\circ = -\frac{1}{a} \end{cases}$$

$$\begin{cases} \tan 10^\circ - \tan v \theta^\circ = -a \\ \tan v \theta^\circ \tan v \theta^\circ = \frac{1}{a} \end{cases}$$

$$\frac{\tan x + 1}{\tan x - 1} + \frac{\tan x - 1}{\tan x + 1} = v \rightarrow \frac{\tan^2 x + 1 + \tan^2 x - 1}{\tan^2 x - 1} = v \rightarrow \frac{2 \tan^2 x}{\tan^2 x - 1} = v$$

$$v \tan^2 x - v = 2 \tan^2 x + v$$

$$\tan^2 x = \frac{v}{v-2} \quad (\odot)$$

8

$$\frac{1 - \cos^2 x + v \cos^2 x}{1 - \cos^2 x + v \cos^2 x - 1} = \frac{v - \cos^2 x}{\cos^2 x} = v$$

9

$$v - \cos^2 x = v \cos^2 x$$

$$v = v \cos^2 x \rightarrow \cos^2 x = \frac{v}{v}$$

$$\sin^2 x = 1 - \frac{v}{v} = 0$$

$$\tan^2 x = \frac{\sin^2 x}{\cos^2 x}$$

$$\rightarrow \frac{0}{\frac{v}{v}} = \frac{0}{v} = 0 \quad (\odot)$$

$$\text{ج) } \cos(4v/10) =$$

$$\cos^2(v/10) = \frac{1 + \cos^2(v/10)}{v} = \frac{1 + \frac{\sqrt{v}}{v}}{v} = \frac{v + \sqrt{v}}{v^2}$$

$$\cos(v/10) = \sqrt{\frac{v + \sqrt{v}}{v^2}} = \frac{\sqrt{v + \sqrt{v}}}{v}$$

10

$$\text{ب) } \sin(4v/10) =$$

$$\sin^2(v/10) = \frac{1 - \cos^2(v/10)}{v}$$

$$\frac{1 - (-\frac{\sqrt{v}}{v})}{v} = \frac{1}{v} + \frac{\sqrt{v}}{v^2} = \frac{v + \sqrt{v}}{v^2}$$

$$\sin(v/10) = \sqrt{\frac{v + \sqrt{v}}{v^2}}$$