

$$\text{الف)} \frac{27}{180} = \frac{\text{Rad}}{\pi} \Rightarrow x = \frac{27\pi}{180} = \frac{\pi}{20} \checkmark$$

$$\text{ب)} \frac{135}{180} = \frac{\text{Rad}}{\pi} \Rightarrow x = \frac{135\pi}{180} = \frac{3\pi}{4} \checkmark$$

$$\text{ج)} \frac{\omega \pi \text{ Rad}}{180} = \frac{D}{180} \Rightarrow x = \frac{180 \times \omega}{12} = 15\omega^\circ \checkmark$$

$$\text{د)} \frac{\frac{4\pi}{9} \text{ Rad}}{x} = \frac{D}{180} \Rightarrow x = \frac{180 \times 4}{9} = 80^\circ \checkmark$$

$$\frac{Q\pi}{480} \times \frac{180}{\pi} = \frac{D}{180} \Rightarrow Q = 22, 5a^\circ \quad \frac{12\omega a}{200} = \frac{D}{180} \Rightarrow D = 12, 5a^\circ$$

$$22, 5a + 12, 5a + 1, a = 180^\circ$$

$$a = 4^\circ$$

$$\text{الف)} \frac{1}{2} \times \frac{\sqrt{3}}{2} - \left(\frac{\sqrt{3}}{2} \times \frac{1}{2} \right) - (1) + 2 = 1$$

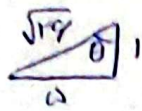
$$\text{ب)} \frac{\frac{1}{2} + 1 + \frac{3}{2}}{\sqrt{3} - \frac{\sqrt{3}}{2}} = \frac{\frac{13}{2}}{\frac{\sqrt{3}}{2}} = \frac{13}{\sqrt{3}} = \frac{13\sqrt{3}}{3}$$

$$-\frac{1}{2} \times \frac{1}{2} + \frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{2} = \sin^2 \theta = \frac{1}{2} \Rightarrow \sin \theta = \pm \frac{\sqrt{2}}{2}$$

$$\sin \theta = \begin{cases} \frac{\sqrt{2}}{2} & \begin{cases} 45^\circ \\ 135^\circ \end{cases} \\ -\frac{\sqrt{2}}{2} & \begin{cases} 225^\circ \\ 315^\circ \end{cases} \end{cases} \quad \tan 45^\circ = 1$$

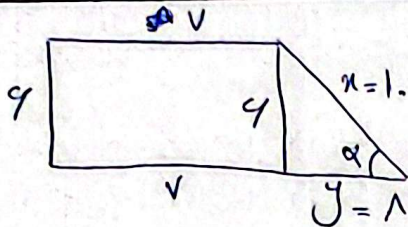
$$\frac{2 \times \frac{\sqrt{3}}{2} \left(1 - \frac{1}{2} \right)}{\left(1 - \frac{1}{2} \right)} = \frac{2\sqrt{3}}{2} = \sqrt{3} = \tan \theta \quad \theta \rightarrow \text{حاده} \quad \theta = 60^\circ$$

$$\frac{4}{180} = \frac{\text{Rad}}{\pi} \Rightarrow \text{Rad} = \frac{\pi}{45} \text{ Rad}$$



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

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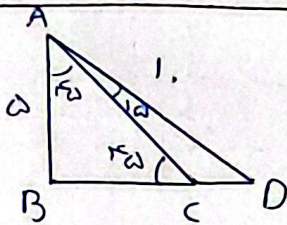


$$\frac{y}{x} = \sin \alpha = \frac{y}{1} \quad x=1,$$

$$y^2 = 1^2 - 1^2 \Rightarrow y = 0$$

$$P = 1 + 1 + 1 + 1 + 1 = 5$$

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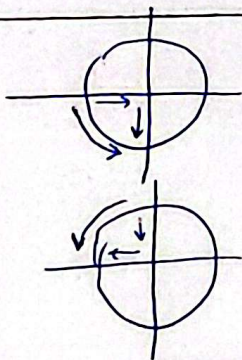
$$\cos \alpha = \frac{1}{r} = \frac{1}{AB} \quad (AB = \omega)$$

$$\frac{AB}{BC} = \tan \alpha = 1 \Rightarrow BC = \omega$$

$$\frac{BD}{1} = \sin \alpha = \frac{\sqrt{3}}{2} \Rightarrow BD = \sqrt{3} = \omega \sqrt{3}$$

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

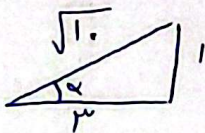
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الف) دائرة وحدة

ب) دائرة وحدة

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$$|\sin \alpha| = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$\Rightarrow \sin \alpha < 0 \Rightarrow \sin \alpha = -\frac{\sqrt{2}}{2}$$

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