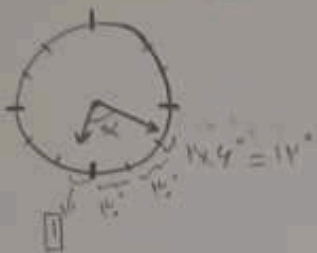


دفعه دفتر B 19 آذر ☆ پاسخ تالیف شماره 19



سؤال 1 (ب) $\boxed{1} = \frac{v}{r} = v \Rightarrow (12 \times 30^\circ) + 90^\circ + 30^\circ = 180^\circ$

(ج) $|\omega_1 \omega_2 M - \omega_0 H| = |12 \times 90 - 90| = 90 \times v$
 $12 \times 90 - 90 \times v = 90 \times v$

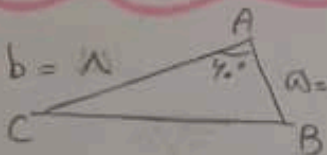


سؤال 2 (ب) $\boxed{1} \rightarrow \frac{12}{r} = 12$

$\alpha = 30^\circ + 30^\circ + 120^\circ + 90^\circ = 360^\circ$

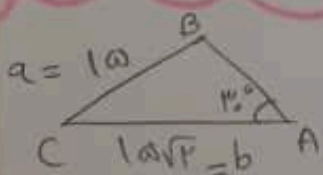
(ج) $|\omega_1 \omega_2 M - \omega_0 H| = |99 - 180| = |-81| = 81$

سؤال 3 (ب) $\alpha = \frac{\pi}{4}$
 $R = 10 \text{ cm}$
 $S_{AOB} = \frac{\alpha}{r} R^2 = \frac{\pi/4}{r} \times 10^2 = \frac{\pi}{4} \times 100 = \frac{25\pi}{2}$
 $|\overline{AB}| = \alpha R \rightarrow \frac{\pi}{4} \times 10 = \frac{\pi}{2} \Rightarrow \frac{\text{مساحت}}{\text{طول}} = \frac{\pi}{4} + \frac{\pi}{2} = \frac{3\pi}{4}$



سؤال 4 (ب) $S_{ABC} = \frac{1}{2} bc \sin A = \frac{1}{2} \times 10 \times 10 \times \frac{\sqrt{2}}{2} = 25\sqrt{2}$

(ج) $a = \sqrt{b^2 + c^2 - 2bc \cos A} \Rightarrow a = \sqrt{10^2 + 10^2 - 100 \cos 45^\circ} = 10\sqrt{2 - \sqrt{2}}$
 $P = 10 + 10 + 10\sqrt{2 - \sqrt{2}} = 20 + 10\sqrt{2 - \sqrt{2}}$



$\hat{B} + \hat{C} = 180^\circ$

$\hat{A} = 45^\circ$

$\hat{B} = 45^\circ \Rightarrow \hat{C} = 90^\circ$

$\frac{10}{10\sqrt{2}} = \frac{R}{r} \Rightarrow R = \frac{10\sqrt{2}}{2} = 5\sqrt{2}$

سؤال 5 (ب) $\frac{a}{\sin A} = \frac{b}{\sin B}$
 $\frac{10}{\sin 45^\circ} = \frac{10\sqrt{2}}{\sin B} \Rightarrow \sin B = \frac{10\sqrt{2} \sin 45^\circ}{10} = 1$
 $\Rightarrow \sin B = 1 \Rightarrow B = 90^\circ$

$\frac{10}{10\sqrt{2}} = \frac{R}{r} \Rightarrow R = \frac{10}{\sqrt{2}} = 5\sqrt{2}$

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

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

سؤال 6 (ب) $\frac{10}{10\sqrt{2}} = \frac{R}{r} \Rightarrow R = \frac{10}{\sqrt{2}} = 5\sqrt{2}$

$$\tan \frac{\pi}{14} = a \Rightarrow \frac{\pi}{14} = \frac{D}{14} \Rightarrow D = 14^\circ$$

(سؤال 1)

$$\frac{\frac{1 \cdot a}{r_x \tan 40^\circ} + va}{\frac{r_x \tan 40^\circ}{14a}} = \frac{14a}{14a} = \frac{14}{14}$$

$$\frac{(\sin m + \cos m)^r + (\sin m - \cos m)^r}{\sin^r m - \cos^r m} =$$

$$r \sin^r m = \frac{a}{r}$$

$$\sin^r m = \frac{a}{r} \Rightarrow \cos^r m = \frac{1}{r}$$

$$\tan^r m = a$$

(سؤال 1)

$$\sin^r m + \cos^r m + \sin^r m \cos^r m + \sin^r m + \cos^r m - r \sin^r m \cos^r m$$

$$\frac{\sin^r m - \cos^r m}{r (\sin^r m + \cos^r m)} = \frac{r}{\sin^r m - \cos^r m}$$

$$\frac{r}{\sin^r m - \cos^r m} = r \Rightarrow \sin^r m - \cos^r m = \frac{1}{r}$$

$$\frac{1 - \cos^r m - r \cos^r m + 1}{1 - \cos^r m + r \cos^r m - r} = \frac{r - r \cos^r m}{r \cos^r m} = r$$

(سؤال 1)

$$r - r \cos^r m = r \cos^r m \Rightarrow \cos^r m = \frac{r}{r}$$

$$\sin^r m + \cos^r m = 1 \Rightarrow \sin^r m = \frac{a}{r}$$

$$\tan^r x = \frac{\sin^r m}{\cos^r m} = \frac{\frac{a}{r}}{\frac{r}{r}} = \frac{a}{r} = \boxed{r/a}$$

$$\text{الف) } \cos^r(2210^\circ) = \frac{1 + \cos(4420^\circ)}{r} = \frac{r + \sqrt{r}}{r}$$

(سؤال 1)

$$\cos(2210^\circ) = \frac{1 + \sqrt{\frac{r+1}{r}}}{2} \Rightarrow \cos(2210^\circ) = \sqrt{\frac{r+1}{r}}$$

(سؤال 1)

$$\text{ب) } \sin^r(4410^\circ) = \frac{1 - \cos(8820^\circ)}{r}$$

$$\frac{r + \sqrt{r}}{r} \rightarrow \sin(4410^\circ) = \sqrt{\frac{r+1}{r}}$$

$$\sin(4410^\circ) = \sqrt{\frac{r+1}{r}}$$

$$\frac{\pi}{r} = \left(\frac{\pi}{4}\right) \times \frac{1}{r} = \frac{\pi^0}{r} = 12^\circ$$

✓

$$A = \frac{r \tan\left(\frac{\pi}{r} - 12^\circ\right) + \tan\left(\frac{\pi}{r} + 12^\circ\right)}{r \tan(\pi - 12^\circ) - \tan\left(\frac{\pi}{r} - 12^\circ\right)} = \frac{r \cot 12^\circ - \cot 12^\circ}{-r \tan 12^\circ - \cot 12^\circ}$$

$$A = \frac{\cot 12^\circ}{-r \tan 12^\circ - \cot 12^\circ} \xrightarrow{\tan 12^\circ = a} \frac{\frac{1}{a}}{-ra - \frac{1}{a}} = \frac{-1}{ra^2 + 1}$$