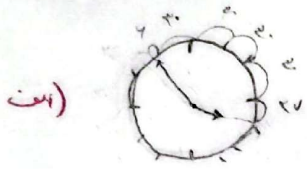


تاریخ: ۳۰/۵/۱۴۰۱

تکلیف سری

درسم دختره

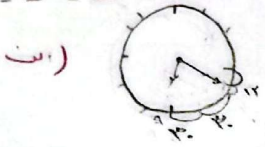
سوال ۱ ۳:۵۴



$$r \times \alpha = 27 + 27 = 54$$

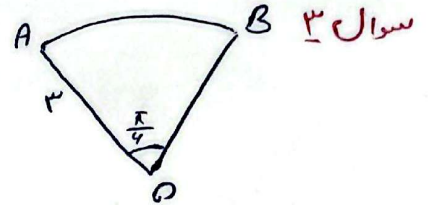
جواب) $\alpha = | \Delta, \Delta m - r \cdot h | = | \Delta, \Delta m - 9. | = 54 \Rightarrow 34 - 20.7 = 13.3^\circ$

سوال ۲ ۴:۱۸



$$r \cdot \alpha = 3 \cdot 3 = 9$$

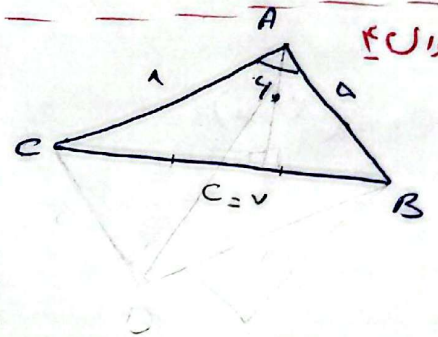
جواب) $\alpha = | \Delta, \Delta m - r \cdot h | = | \Delta, \Delta m - 3 \cdot 4 | = 12^\circ$



جواب) $S = \frac{\alpha}{2} R^2 \Rightarrow \frac{\pi}{2} r^2 \alpha = \frac{\pi}{2}$

جواب) $P = \alpha R + 2R = \frac{\pi}{4} r^2 + 4 = \frac{\pi}{4} + 4 \Rightarrow \frac{\pi + 12}{4}$

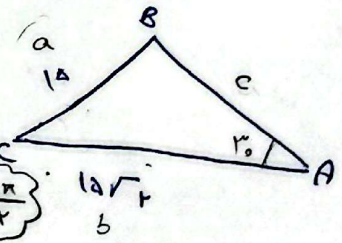
سوال ۴



جواب) $S_{ABC} = \frac{1}{2} AC \cdot AB \cdot \sin \alpha \Rightarrow \frac{1}{2} \times 4 \times 4 \times \frac{\sqrt{3}}{2} = 4\sqrt{3}$

جواب) $c^2 = a^2 + b^2 - 2ab \cos \alpha \Rightarrow c^2 = 1 + 1 - 2 \times 1 \times 1 \times \frac{1}{2} = 1 \Rightarrow c = 1$

سوال ۵



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$\frac{1}{1} = \frac{1}{\sin B} = \frac{1}{\sin C} \Rightarrow \sin B = \frac{1}{2} \Rightarrow B = 30^\circ$

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

سوال ۶

$$\tan \frac{\pi}{4} = \alpha \Rightarrow A = \frac{r \tan \frac{\pi}{4} + \tan \frac{\pi}{4}}{r \tan \frac{\pi}{4} - \tan \frac{\pi}{4}} = \frac{r \tan \left(\frac{\pi}{4} - \alpha \right) + \tan \left(\frac{\pi}{4} + \alpha \right)}{r \tan \left(\frac{\pi}{4} - \alpha \right) - \tan \left(\frac{\pi}{4} + \alpha \right)} = \frac{r \cot \alpha - \cot \alpha}{r \tan \alpha - \cot \alpha} = -\frac{\cot \alpha}{r \tan \alpha + \cot \alpha}$$

$$\Rightarrow -\frac{1}{r \tan \alpha + \frac{1}{\tan \alpha}} = -\frac{\frac{1}{\tan \alpha}}{r \tan^2 \alpha + 1} = -\frac{1}{r \tan^2 \alpha + 1} \Rightarrow \frac{1}{r \tan^2 \alpha + 1} = \frac{1}{\frac{r \sin^2 \alpha + 1}{\cos^2 \alpha}} \Rightarrow \frac{\cos^2 \alpha}{\sin^2 \alpha + 1}$$

$$\tan^2 \alpha = ?$$

سوال ١

$$\frac{\sin x + \cos x}{\cos x} + \frac{\sin x - \cos x}{\cos x} = r \Rightarrow \frac{\tan x + 1}{\tan x - 1} + \frac{\tan x - 1}{\tan x + 1} = r$$

$$\Rightarrow \frac{(\tan x + 1)^2 + (\tan x - 1)^2}{\tan^2 x - 1} = r \Rightarrow \tan^2 x + 1 + \tan^2 x + 1 - \cancel{\tan^2 x} - \cancel{1} = r \tan^2 x - r$$

$$\Rightarrow r \tan^2 x + r = r \tan^2 x - r \Rightarrow \tan^2 x = 0$$

$$\frac{\sin^2 x - r \cos^2 x - \frac{1}{\cos^2 x}}{\cos^2 x} = r \Rightarrow \frac{\tan^2 x - r + 1 + \tan^2 x}{\tan^2 x + \frac{r-1}{1} - \tan^2 x} = r \Rightarrow r \tan^2 x - 1 = r \Rightarrow r \tan^2 x = 0 \Rightarrow \tan^2 x = 0$$

سوال ٩

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

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

$$\Rightarrow \frac{\sqrt{r + \sqrt{r}}}{r} = \cos(\sqrt{r})$$

$$\sin(4\sqrt{r}) \Rightarrow \sin^2(4\sqrt{r}) = \frac{1 - \cos 8\sqrt{r}}{2}$$

$$\Rightarrow \frac{1 + \frac{\sqrt{r}}{r}}{2} \Rightarrow \frac{r + \sqrt{r}}{2} = \frac{r + \sqrt{r}}{2} = \sin^2(4\sqrt{r})$$

$$\Rightarrow \sin(4\sqrt{r}) = \frac{\sqrt{r + \sqrt{r}}}{r}$$

سوال ١٠