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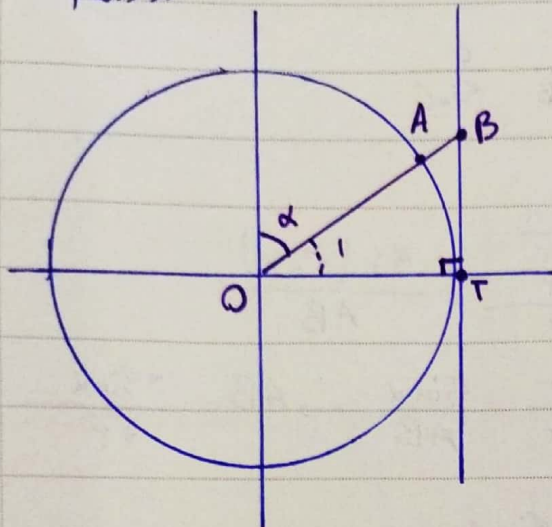
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A possible

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$$\begin{aligned} A \quad & \cos\left(\frac{\pi}{2} - \alpha\right) \rightarrow \sin \alpha \quad (1) \\ & \sin\left(\frac{\pi}{2} - \alpha\right) \rightarrow \cos \alpha \end{aligned}$$

$$B \quad \tan\left(\frac{\pi}{2} - \alpha\right) \rightarrow \cot \alpha$$

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$$AB = \sqrt{(\sin \alpha - 1)^2 + (\cos \alpha - \cot \alpha)^2}$$

$$AB = \frac{\sin \alpha - 1}{\sin \alpha} \rightarrow AB = \frac{1}{\sin \alpha} - 1$$

$$\sin^2 \alpha + 1 - 2 \sin \alpha$$

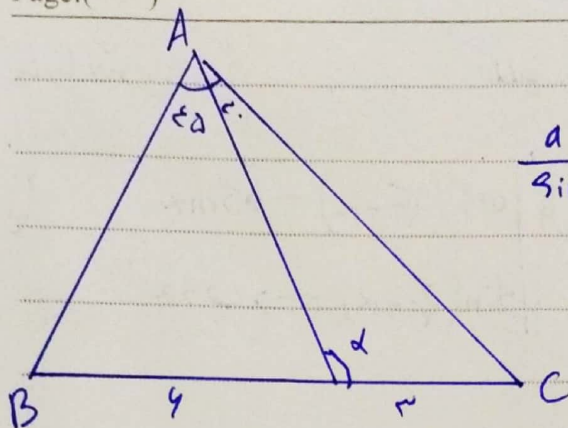
$$\cos \alpha - \cot \alpha = \cos \alpha - \frac{\cos \alpha}{\sin \alpha} \rightarrow \frac{\cos \alpha (\sin \alpha - 1)}{\sin \alpha}$$

$$\frac{\cos^2 \alpha (\sin^2 \alpha + 1 - 2 \sin \alpha)}{\sin^2 \alpha}$$

$$\frac{\sin^2 \alpha (\sin^2 \alpha + 1 - 2 \sin \alpha) + (1 - \sin^2 \alpha) (\sin^2 \alpha + 1 - 2 \sin \alpha)}{\sin^2 \alpha} = \frac{1 + \sin^2 \alpha - 2 \sin \alpha}{\sin^2 \alpha}$$

~~$$AB = \frac{1 + \sin^2 \alpha - 2 \sin \alpha}{\sin^2 \alpha}$$~~

$$AB = \sqrt{\frac{(\sin \alpha - 1)^2}{\sin^2 \alpha}}$$



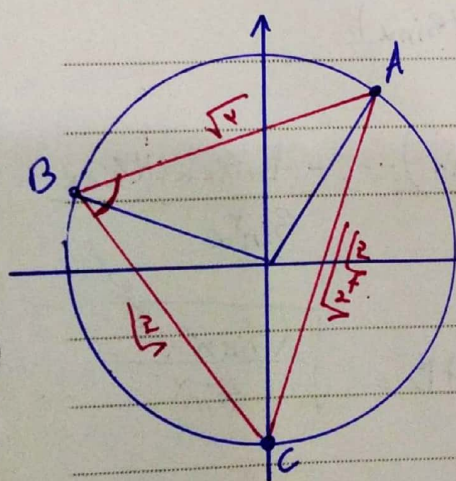
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{\frac{\sqrt{r}}{r}}{\frac{1}{r}} = \frac{\sin(\pi - \alpha)}{AB}$$

$$\rightarrow \frac{\sqrt{r}}{1} = \frac{\sin \alpha}{AB} \rightarrow AB = \frac{1 \sin \alpha}{\sqrt{r}}$$

$$\frac{\frac{1}{r}}{r} = \frac{\sin \alpha}{AC} \rightarrow \frac{1}{r^2} = \frac{\sin \alpha}{AC} \rightarrow AC = r^2 \sin \alpha$$

$$\frac{AB}{AC} = \frac{\frac{1 \sin \alpha}{\sqrt{r}}}{r^2 \sin \alpha} = \frac{\sqrt{r}}{r^2}$$



$$A \left| \frac{1}{r} \right|$$

$$B \left| \frac{\sqrt{r}}{r} \right|$$

$$C \left| \frac{0}{r} \right|$$

$$AB = \sqrt{\left(\frac{1+\sqrt{r}}{r}\right)^2 + \left(\frac{\sqrt{r}-1}{r}\right)^2} = \sqrt{r}$$

$$BC = \sqrt{\left(\frac{\sqrt{r}}{r}\right)^2 + \left(-\frac{r}{r}\right)^2} = \sqrt{r}$$

$$\cos B = \frac{a^2 + c^2 - b^2}{2ac}$$

$$AC = \sqrt{\left(\frac{1}{r}\right)^2 + \left(\frac{\sqrt{r}+r}{r}\right)^2} = \sqrt{r + \sqrt{r}}$$

$$\rightarrow \cos B = \frac{r + r - 2\sqrt{r}}{2 \times \sqrt{r} \times \sqrt{r}} \rightarrow \frac{r - \sqrt{r}}{2\sqrt{r}} = \frac{\sqrt{r}(\sqrt{r}-1)}{2\sqrt{r} \times \sqrt{r}} = \cos B = \frac{\sqrt{r}-1}{2\sqrt{r}}$$

$$S = \frac{1}{r} \times \sqrt{r} \times \sqrt{r} \times \frac{1+\sqrt{r}}{2\sqrt{r}} = \frac{r+\sqrt{r}}{r}$$

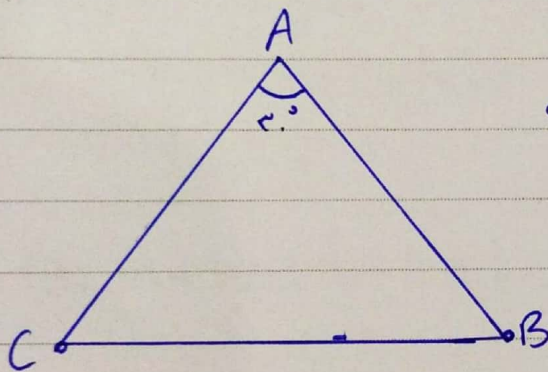
$$\sin B = \frac{1+\sqrt{r}}{2\sqrt{r}}$$

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$$\overline{AB} + \overline{AC} + \overline{BC} = \sqrt{2} + \sqrt{3} + \sqrt{2+3}$$



$$S = \frac{1}{2} AC \times BA \times \sin \hat{A}$$

$$\frac{1}{2} \times \log_2^{22} \times \log_3^{14} \times \frac{1}{2}$$

$$\rightarrow \frac{1}{2} \times \frac{22 \log_2 1}{\log_2 2} \times \frac{14 \log_3 1}{\log_3 3} \times \frac{1}{2} = \frac{1}{2} \times 22 \times 14 \times \frac{1}{2} = 154$$

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$$x = \cos \alpha$$

$$\cancel{y \cos \alpha - \cos \alpha} - \sin \alpha (y \sin \alpha - 1) = 1$$

(a)

y

$$\cos \alpha (y \cos \alpha - 1) - \sin \alpha (y \sin \alpha - 1) = 1 \quad \rightarrow \quad \cos \alpha (\cos \alpha + \sin \alpha) = 1$$

$\downarrow$ $\downarrow$
 $\cos y \alpha$ $-\cos y \alpha$

$$\cos y \alpha = 1$$

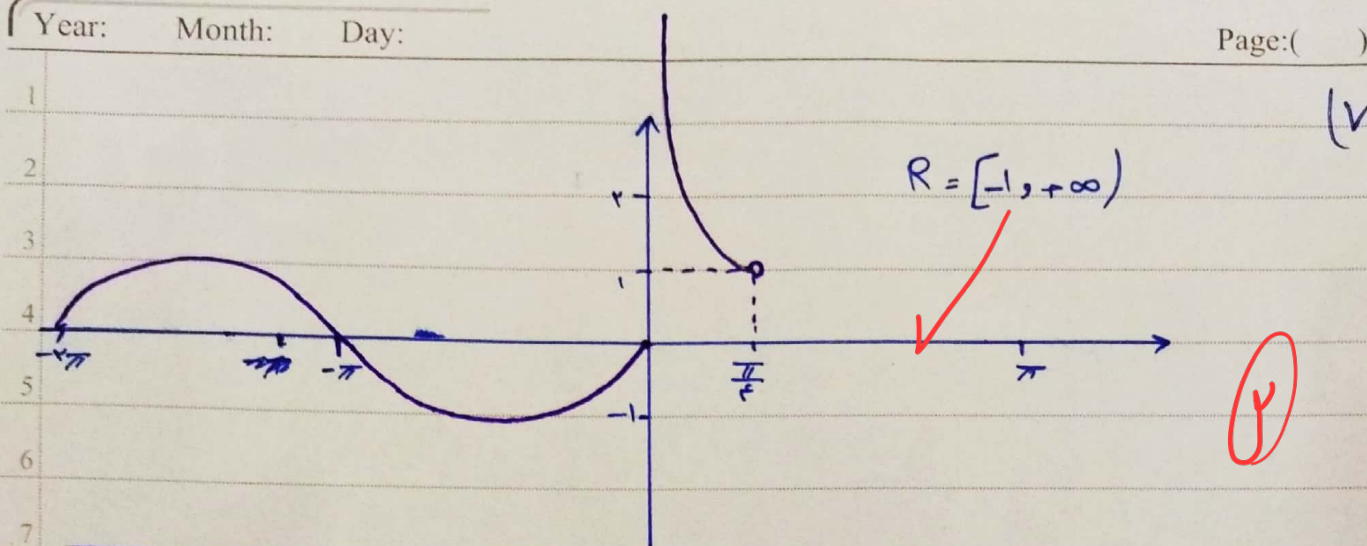
$$\boxed{\sin y \alpha = 0}$$



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$$f(x) = b \sin(cx) \cos(cx) \cos(\pi cx) + a$$

$$\cancel{\times \sin(\pi cx)} \quad \cancel{\times \sin(\pi cx) \times b}$$

$$f(x) = a + b \times \frac{1}{\epsilon} \sin(\epsilon cx) \rightarrow \left. \begin{array}{l} \left| \frac{b}{\epsilon} \right| + a = \epsilon \\ \left| \frac{b}{\epsilon} \right| + a = 0 \end{array} \right\} \begin{array}{l} a = \epsilon \\ |b| = \epsilon \\ \downarrow \\ b = \epsilon \leftarrow \left| \frac{\pi}{\epsilon} \right| \checkmark \end{array}$$

$$T = \frac{\pi}{\epsilon} - \frac{\pi}{\epsilon} = \frac{\epsilon\pi}{\epsilon} = \frac{\pi}{\epsilon} \rightarrow |c| = \frac{1}{\epsilon}$$

$$c = \frac{1}{\epsilon}$$

$\textcircled{1}$

$$\frac{bc}{a} = \frac{1 \times \frac{\pi}{\epsilon}}{\epsilon} = \textcircled{a} \checkmark$$

$$(T) \text{ و } \bar{w}_{0,0} = r \leadsto f(x) = f(x+r) \quad \mu \in \mathbb{Z}(I) \quad (1)$$

$$f(-r, d) = f(-r, d + r\mu) \rightarrow \in [-1, r]$$

~~استنتج~~
$$-1 < -r, d + r\mu < r \rightarrow r, d \leq r\mu < r, d$$

$$\frac{r, d}{r} < \mu < \frac{r, d}{r}$$

$$f(-r, d + r\mu) = f(-r, d + r) = f(1, d)$$

$$\downarrow$$

$$\mu = 1$$

$$f(1, d) = \frac{1}{r}$$

