

$$\frac{119}{116}$$



$$\frac{119}{116} = \frac{119}{116}$$

$$119 = 116$$

۲۰ آفرین!

$$119 + 27 + 9 = 155 \checkmark$$

اکبر بن عباسی

(الف)

(۲)

100°

$$\theta = |100^\circ H - 100^\circ M| \rightarrow |100^\circ \times 12 - 100^\circ \times 12| = 0$$

$$190 - 190 = 0$$



$$119 = 116$$

$$119 + 27 + 9 = 155 \checkmark$$

(الف)

(۲)

$$|119 \times 12 - 100 \times 12| = |1428 - 1200| = 228 \checkmark$$

(ب)

$$\frac{119}{116} = \frac{119}{116} \leftarrow \frac{119}{116} \times \frac{119}{116} \times 9 \leq \frac{119}{116} R^2$$

$$R \alpha = \frac{119}{116} \times \frac{119}{116} \times 9 \text{ cm} \quad \frac{119}{116} = 2R + L = 2 \times 119 + \frac{119}{116} = 238 + \frac{119}{116} \checkmark$$

$$\frac{1}{2} \times 100 \times 12 \times \sin 100^\circ = \frac{1}{2} \times 100 \times 12 \times \frac{1}{2} = 3000 \checkmark$$

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$$\frac{AC}{\sin B} = \frac{AB}{\sin C} = \frac{BC}{\sin A} \Rightarrow \frac{A}{\sin B} = \frac{B}{\sin C} = \frac{C}{\sin A}$$

ABC مثلث

$$BC = \sqrt{119^2 + 120^2 - 2 \times 119 \times 120 \times \cos 100^\circ} = \sqrt{119^2 + 120^2 + 2 \times 119 \times 120 \times \sin 10^\circ} = \sqrt{119^2 + 120^2 + 2 \times 119 \times 120 \times 0.1736} = \sqrt{119^2 + 120^2 + 4900} = \sqrt{14161 + 4900} = \sqrt{19061} = 138 \checkmark$$

$$119 + 120 + 138 = 377 \checkmark$$

$$B + C = 180^\circ \rightarrow 180^\circ - 100^\circ = 80^\circ \rightarrow A$$

$$\frac{119}{\sin A} = \frac{120}{\sin B} \Rightarrow \frac{119}{\sin 80^\circ} = \frac{120}{\sin B} \Rightarrow \sin B = \frac{120 \sin 80^\circ}{119} = \frac{120 \times 0.9848}{119} = \frac{118.176}{119} = 0.9927 \Rightarrow B = 85^\circ$$

$$B = 85^\circ$$

$$C = 85^\circ$$

$$\frac{119}{116} \leftarrow \frac{119}{116} = C, \quad \frac{119}{116} = C$$

$$\frac{119}{116} = C$$

$$\tan(\pi - \alpha) = -\tan \alpha$$

$$\tan(\pi + \alpha) = \tan \alpha$$

$$\tan(\pi - \alpha) = -\tan \alpha$$

$$\tan(\pi + \alpha) = \tan \alpha$$

$$\frac{-\tan \alpha + \tan \alpha}{-\tan \alpha - \tan \alpha} = \frac{0}{-2 \tan \alpha} = 0$$

$$\tan 1\omega = \frac{1}{1r} = a$$

$$\tan 2\omega = \cot 1\omega = \frac{1}{a}$$

$$\tan 10\omega = \tan(9+1)\omega = -\cot 1\omega = -\frac{1}{a}$$

$$\tan 14\omega = \tan(13+1)\omega = -\tan 1\omega = -a$$

$$\tan 18\omega = \tan(17+1)\omega = \tan 2\omega = \frac{1}{a}$$

$$\left. \begin{array}{l} \tan 1\omega = a \\ \tan 2\omega = \frac{1}{a} \\ \tan 10\omega = -\frac{1}{a} \\ \tan 14\omega = -a \\ \tan 18\omega = \frac{1}{a} \end{array} \right\} \frac{r\left(\frac{1}{a}\right) - \frac{1}{a} = \frac{1}{a}}{r\left(-\frac{1}{a}\right) - \frac{1}{a} = -ra - \frac{1}{a}} = \frac{\frac{1}{a}}{-ra - \frac{1}{a}} = -\frac{1}{ra^2 + 1}$$

$$f = \frac{\sin + c.s}{\sin - c.s} \Rightarrow f + \frac{1}{f} = r \Rightarrow f^2 - rf + 1 = 0$$

$$\frac{f}{c.s} \Rightarrow f = \frac{\tan x + 1}{\tan x - 1} \Rightarrow \tan x = \frac{f+1}{f-1} \Rightarrow \tan^2 x = \left(\frac{f+1}{f-1}\right)^2 \Rightarrow \tan^2 x = \omega$$

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

$$r \cos^2 = r \sin^2 - 1 \Rightarrow r - r \sin^2 = r \sin^2 - 1 \Rightarrow 1 - \sin^2 = \cos^2 = \omega \Rightarrow \sin^2 = \frac{\omega}{r}$$

$$\tan^2 = \frac{\frac{\omega}{r}}{\frac{1}{r}} = \frac{\omega}{1} = \omega$$

$$\cos(r, \omega) \Rightarrow \sqrt{\frac{1 + \cos r \omega}{r}} = \sqrt{\frac{1 + \frac{\sqrt{r}}{r}}{r}} = \frac{\sqrt{r + \sqrt{r}}}{r}$$

$$\sin(r, \omega) \Rightarrow \sqrt{\frac{1 - \cos r \omega}{r}} = \sqrt{\frac{1 - \frac{\sqrt{r}}{r}}{r}} = \sqrt{\frac{r - \sqrt{r}}{r}} = \frac{\sqrt{r - \sqrt{r}}}{r}$$