

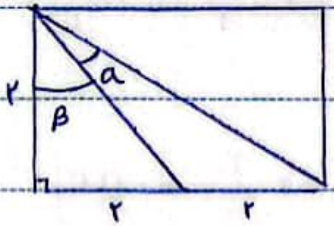
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آرکوس با درسی از درجه (متر) تلفیق شده است

$$S = \frac{1}{r} \times \sqrt{3} \times 4 \times \sin a = \epsilon \omega \rightarrow \sin a = \frac{\epsilon \omega}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{2} \rightarrow a = 90^\circ \wedge a = 120^\circ - 1$$

$$\rightarrow \frac{120^\circ}{6} = 20$$

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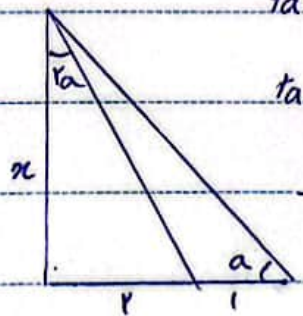


$$\tan \beta = \frac{r}{r} = 1 \quad \tan(a + \beta) = \frac{\epsilon}{r} = 2$$

$$\tan a = \tan((a + \beta) - \beta) = \frac{\tan(a + \beta) - \tan \beta}{1 + \tan(a + \beta) \tan \beta} = \frac{2 - 1}{1 + (2 \times 1)} = \frac{1}{3}$$

$$\Rightarrow \cot a = 3$$

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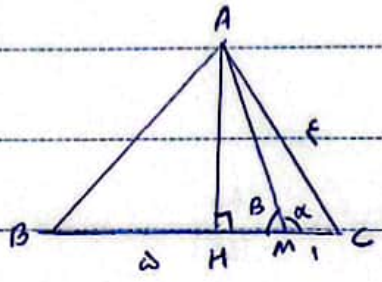
$$\tan a = \frac{n}{r} \quad \tan \beta = \frac{r}{n}$$

$$\tan \beta = \frac{r \tan a}{1 - \tan^2 a} \rightarrow \frac{r}{n} = \frac{\frac{rn}{r}}{1 - \frac{n^2}{r^2}} \rightarrow \frac{r}{n} = \frac{rn}{r^2 - n^2}$$

$$\rightarrow rn^2 = 1n - r^2n^2 \rightarrow 1n^2 = 1n \rightarrow n^2 = \frac{1}{r} \rightarrow n = \frac{1}{\sqrt{r}}$$

$$\tan a = \frac{n}{r} = \frac{1}{r} \Rightarrow \cot a = r$$

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$$HC = \frac{9}{r} = 3 \rightarrow HM = 2$$

$$AH^2 + HC^2 = 14 \rightarrow AH^2 + 9 = 14 \rightarrow AH = \sqrt{5}$$

$$\tan \beta = \frac{AH}{HM} = \frac{\sqrt{5}}{2} \quad \tan \alpha = \tan(120^\circ - \beta) = -\tan \beta = -\frac{\sqrt{5}}{2}$$

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$$\sin^2 m + \overbrace{\sin^2 m + \cos^2 m}^1 = \frac{\epsilon}{r} \rightarrow \sin^2 m = \frac{1}{r}, \quad \cos^2 m = \frac{r}{r}$$

$$\tan^2 m = \frac{1}{r} \times \frac{r}{r} = \frac{1}{r}$$

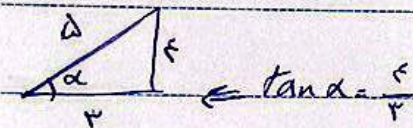
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$$\frac{\sin^2 \alpha + r(1 - \sin^2 \alpha)}{1 + \cos^2 \alpha} = \frac{\cos^2 \alpha + r(1 - \cos^2 \alpha)}{1 + \sin^2 \alpha} = \frac{(\sin^2 \alpha - r)^r}{1 + \cos^2 \alpha} = \frac{(\cos^2 \alpha - r)^r}{1 + \sin^2 \alpha}$$

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

$$\sin\left(\frac{9\pi}{4} + a\right) \text{ f.p.} \quad \cos\left(\frac{11\pi}{4} - a\right) \text{ f.p.} \quad \tan\left(a - \frac{7\pi}{4}\right) = \tan\left(\frac{7\pi}{4} - a\right) \text{ f.p.}$$

$$\rightarrow \cos a (-\sin a) + \cot a \rightarrow \left(\frac{r}{\omega}\right)\left(\frac{r}{\omega}\right) + \frac{r}{r} = \frac{-1r}{r\omega} + \frac{r}{r} = \frac{r\omega}{1 \cdot \omega} = \frac{r\omega}{\omega}$$



$$\tan \alpha = \frac{r}{r}$$

$$r \cos \alpha + r \left(\frac{\sqrt{r}}{r} \sin \alpha - \frac{\sqrt{r}}{r} \cos \alpha \right) = r \cos \alpha + r \sin \left(\alpha - \frac{\pi}{4} \right)$$

$$= r \cos \frac{\pi}{4} + r \sin \left(-\frac{\pi}{4} \right) = r \left(\frac{1}{\sqrt{2}} \right) - r \left(\frac{1}{\sqrt{2}} \right) = 0$$

$$\tan a = \frac{r \tan \frac{a}{r}}{1 - \tan^2 \frac{a}{r}} = \frac{\frac{1}{r}}{1 - \frac{1}{r^2}} = \frac{1}{r\omega} \quad \sin a = \frac{r \tan \frac{a}{r}}{1 + \tan^2 \frac{a}{r}} = \frac{\frac{1}{r}}{1 + \frac{1}{r^2}} = \frac{1}{r\omega} \rightarrow \cos a = \sqrt{1 - \sin^2 a} = \frac{1\omega}{1\omega}$$

$$\frac{\tan a - \sin a}{\sin a - \cos a} = \frac{\frac{1}{r\omega} - \frac{1}{r\omega}}{\frac{1}{r\omega} - \frac{1\omega}{1\omega}} = \frac{\frac{1\omega - 1r}{r\omega\omega}}{\frac{-\omega}{1\omega}} = \frac{1\omega - 1r}{-\omega} = \frac{1\omega - 1r}{-\omega}$$

$$r \sin a \leftarrow r \sin a \cos a \rightarrow \sin a - \sin a \cos a \leftarrow \rightarrow \sin a (1 - \cos a) \leftarrow$$

$$\rightarrow \boxed{\sin a \cos a}$$

$$\frac{\cot a}{\sin a} \rightarrow \rightarrow \cot a \leftarrow \rightarrow \frac{\cos a}{\sin a} \leftarrow \rightarrow \boxed{\cos a} \rightarrow$$

f.p. f.p.