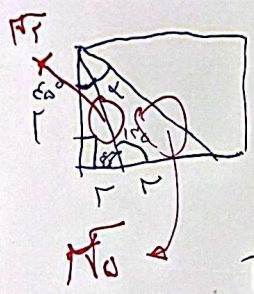


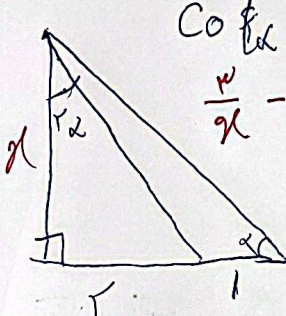
$f \quad 4 \times \sqrt{2} \times \sin \alpha \Rightarrow \sin(\alpha) = \frac{r}{100} \Rightarrow r = 100 \sin(\alpha)$
 $\sin(\alpha) = \frac{r}{100}$
 $46^\circ \leftarrow \sin \alpha = \frac{r}{100}$
 دو زاویه متمم از ۱۵۰

۱



$\sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta = \frac{r}{r} (\sin \alpha \cos \beta)$
 $\sin \alpha + \cos \alpha = r \times \frac{\sqrt{2}}{2} = \frac{r\sqrt{2}}{2}$
 $\tan(\alpha + \beta) = \tan(\alpha + \beta) = \frac{\tan \alpha + 1}{1 - \tan \alpha} = \frac{\tan \alpha + 1}{1 - \tan \alpha} = r \Rightarrow \tan \alpha = \frac{1}{r}$

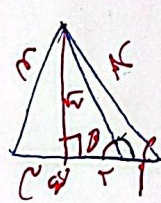
۲



$\cot \alpha - \tan \alpha = r \cot \alpha$
 $\frac{r}{1} - \frac{1}{r} = r \frac{1}{r} \Rightarrow \frac{r}{1} = \frac{1}{r} + r$
 $r = \frac{1}{r} + r \Rightarrow r = \frac{1}{r}$
 $\cot(\alpha) = \frac{r}{1} = r$

۳

$A, B \text{ زاویه } \sin(\alpha) = \sin(\pi - \alpha) \Rightarrow \tan(\alpha) = -\tan(\beta)$



$\tan(\beta) = \frac{r}{1} \Rightarrow \tan(\alpha) = -\frac{r}{1}$

۴

$\sin^2 \alpha + \sin^2 \alpha + \cos^2 \alpha = \frac{r}{c} \Rightarrow \sin^2 \alpha = \frac{1}{c} \Rightarrow \sin \alpha = \frac{\sqrt{c}}{\sqrt{c}}$

$\tan \alpha = \frac{\frac{\sqrt{c}}{\sqrt{c}}}{\frac{1}{\sqrt{c}}} = \sqrt{\frac{1}{c}} = \sqrt{\frac{1}{c}} = \frac{1}{\sqrt{c}} = \frac{\sin \alpha}{\cos \alpha} \Rightarrow \tan \alpha = \frac{1}{r}$

۵

~~tan alpha + 1 = 1/cos alpha~~

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

0
6

$$\frac{r - \sin^2 \alpha}{r - \sin^2 \alpha} = \frac{r - \cos^2 \alpha}{r - \cos^2 \alpha} \Rightarrow \cos^2 \alpha - \sin^2 \alpha = \boxed{\cos 2\alpha}$$

tan alpha + 1 = 1/cos alpha => 1/9 + 1/2 = 1/c => cos alpha = 2/9 => cos alpha = 2/9, sin alpha = sqrt(1 - 4/81) = sqrt(77)/9

کان عوض دینے

1.5

sin(alpha - pi/4) = sin(alpha)cos(pi/4) - cos(alpha)sin(pi/4)

tan(alpha - pi/4) = cot(alpha) = 1/tan(alpha)

cos(pi/4 - alpha) = sin(alpha) = 2/9

-2/9 * 2/9 = -4/81 + 2/9 = 2/9

7

sqrt(r) * (sin(alpha)cos(pi/4)) = r * sin(-pi/4) = -r * sin(pi/4) = -1

2

sqrt(r) * sin(alpha - pi/4)

cos(pi/4)cos(pi/4) = (1/2) * 1/2 = 1/4

1/2 - 1 = -1/2

8

tan(pi/4) + 1 = 1/cos(alpha) => 1/14 + 1/14 = 1/c => cos(alpha) = 1/14

0
9

cot(pi/4) * tan(alpha) = r * cot(alpha) => r - 1/8 = 1/14

1 + tan(alpha) = 1/cos(alpha) => cos(alpha) = 1/14

1/14 - 1/8 = 1/56

1/56 = 1/c => c = 56

1/56 = 1/c => c = 56

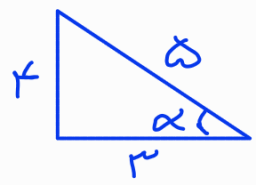
0

CS alpha / Sin alpha = CS alpha / Sin alpha > 0 -> CS alpha > 0

r Sin alpha < Sin alpha -> Sin alpha(1 - CS alpha) < 0

Sin alpha < 0

10



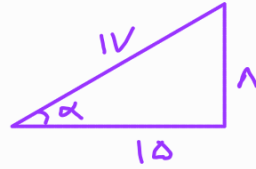
$$\sin \alpha = -\frac{r}{\Delta}$$

$$\cos \alpha = -\frac{\Delta}{\Delta}$$

-V

$$\cos \alpha (-\sin \alpha) + \cot \alpha = \left(-\frac{r}{\Delta}\right)\left(\frac{r}{\Delta}\right) + \frac{r}{r} = 0 \text{ / } \Delta$$

$$\tan \alpha = \frac{r \tan \frac{\alpha}{r}}{1 - \tan \frac{\alpha}{r}} = \frac{1}{10}$$



$$\cos \alpha = \frac{10}{10}$$

$$\sin \alpha = \frac{1}{10}$$

-9

$$\frac{\tan \alpha - \sin \alpha}{\sin \alpha - \cos \alpha} = \frac{-14}{100}$$