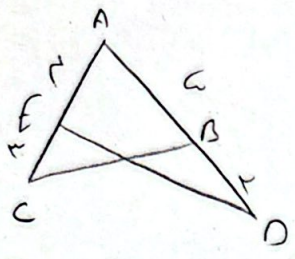


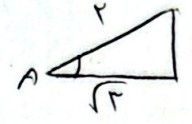
$S = ab \sin \alpha$ $a = r\sqrt{2}$ $b = r\sqrt{2}$ $\alpha = 135^\circ$ $S = 4r^2 \times \frac{1}{2} = 2r^2$ $r^2 = 1$ $r = \sqrt{2}$ $a = 2\sqrt{2}$ $b = 2\sqrt{2}$

$P = r(4\sqrt{2} + 2\sqrt{2}) = 6\sqrt{2}$



$S_{ABC} - S_{ADE} = 1/2 \times VG$ $\frac{\sin \hat{A}}{r} (a \times v - r \times v) = 1/2 \times VG$

$\sin \hat{A} = \frac{r \times VG}{v} = \frac{1}{r}$ $\tan \hat{A} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$



$\frac{1}{\sqrt{\cos^2 \alpha}} - \tan \alpha = \frac{1 + \sin \alpha}{1 \cdot \cos \alpha} = \frac{1}{\cos \alpha} - \frac{\sin \alpha}{\cos \alpha} \Rightarrow \frac{\sin \alpha}{\cos \alpha} = \frac{-\sin \alpha}{\cos \alpha} \Rightarrow \cos \alpha < 0$

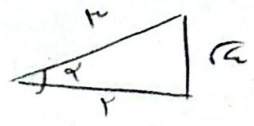
$\frac{-1}{\cos \alpha} = \frac{-\sin \alpha}{\cos \alpha} = \frac{|\sin \alpha|}{\cos \alpha} = \tan \alpha$

$m = \frac{-1 \times r}{r} = -\frac{r}{r} = -\tan \alpha$ $\tan(\frac{\pi}{2} - \alpha) = \cot \alpha = \frac{1}{\tan \alpha} = -\frac{r}{r}$

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

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

$\frac{r - \sqrt{2}}{r} = \frac{1 - r\sqrt{2}}{r}$



$\cos \alpha = \frac{1}{\sqrt{2}}$
 $\sin \alpha = \frac{1}{\sqrt{2}}$
 $\tan \alpha = \frac{1}{1} = 1$

$\sin^2 \alpha + \cos^2 \alpha = 1$ $\cos^2 \alpha + \cos^2 \alpha = 2 \cos^2 \alpha = 1$ $\cos^2 \alpha = \frac{1}{2}$ $\cos \alpha = \pm \frac{1}{\sqrt{2}}$

$$r \sin x + (m^2 - 1)y = r$$

$$y = \frac{-r \sin x}{m^2 - 1} + \frac{r}{m^2 - 1}$$

$$\frac{-r \sin x}{m^2 - 1} = \tan \alpha \cdot \frac{r}{\sqrt{r}}$$

$$\sqrt{r} \sin^2 x + r \sin x - \sqrt{r} = 0 \quad | \text{Divide by } \sqrt{r} | = \frac{\sqrt{r}}{r} = \frac{\sqrt{r + r \sin x}}{\sqrt{r}}$$

$$\frac{r}{\sqrt{r}} = \frac{r \sqrt{r}}{r}$$

$$-\frac{\pi}{2} < x < \frac{\pi}{2} \quad x(-) \rightarrow -\frac{\pi}{2} < -x < \frac{\pi}{2} \quad +\frac{\pi}{2} \rightarrow 0 < \frac{\pi}{2} - x < \frac{\pi}{2}$$

$$\tan \alpha > 0 \quad \frac{1-m}{1+m} > 0 \quad \frac{-r}{-1+1} \quad m \in (-1, 1)$$

$$\tan(\pi - \alpha) \cos(\pi - \alpha) + \tan(\pi - \alpha) \sin(\pi - \alpha) = -\sqrt{r} \times -\frac{\sqrt{r}}{r} + (-\sqrt{r}) \times \frac{\sqrt{r}}{r} = \frac{r}{r} - \frac{r}{r} = 0$$