

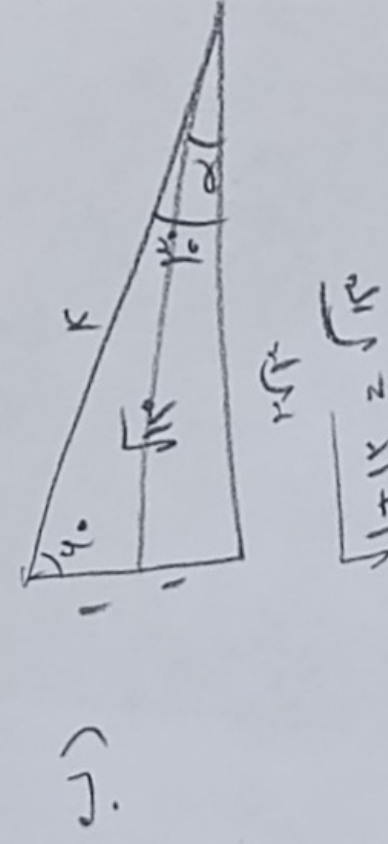
$$\begin{aligned} \text{جـ) } & \left(\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2} \right) \left(\frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{2} \right) = \left(\frac{\sqrt{2}}{2} \right)^2 - \left(\frac{\sqrt{2}}{2} \right)^2 = \frac{2}{4} - \frac{2}{4} = 0 \\ \text{د) } & \frac{1 + \frac{2}{\sqrt{2}} \left(\frac{\sqrt{2}}{2} \right)^2}{\frac{2}{\sqrt{2}} \left(\frac{\sqrt{2}}{2} \right)^2 + \frac{2}{\sqrt{2}} \left(-\frac{\sqrt{2}}{2} \right)^2} = \frac{1 + \frac{2}{\sqrt{2}} \times \frac{1}{2}}{\frac{2}{\sqrt{2}} \times \frac{1}{2} + \frac{2}{\sqrt{2}} \times \frac{1}{2}} = \frac{1 + \frac{1}{\sqrt{2}}}{1 + \frac{1}{\sqrt{2}}} = 1 \end{aligned}$$

$$\begin{aligned} \text{هـ) } & \frac{\sqrt{2}}{2} \times \sqrt{2} = \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = \frac{2}{4} = \frac{1}{2} \\ & \frac{2}{\sqrt{2}} \times \frac{2}{\sqrt{2}} = \frac{2}{\sqrt{2}} \times \frac{2}{\sqrt{2}} = \frac{4}{2} = 2 \\ & \frac{2}{\sqrt{2}} = \frac{2}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2} \end{aligned}$$

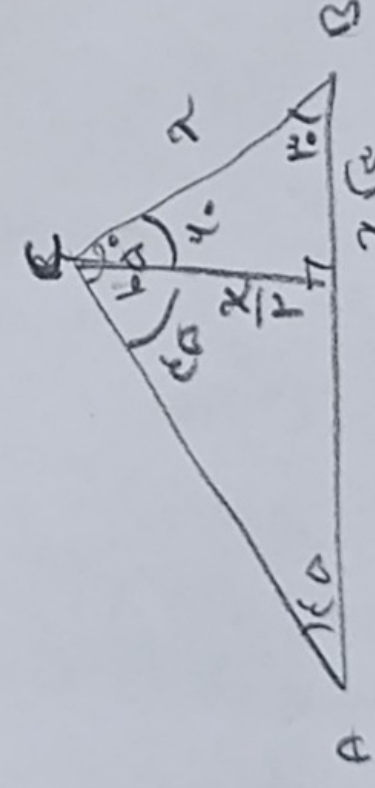
$$\begin{aligned} \text{و) } & \frac{\sqrt{2}}{2} \times \frac{2}{\sqrt{2}} = 1 \\ & \frac{2}{\sqrt{2}} = \frac{2}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2} \end{aligned}$$

$$\begin{aligned} \frac{\sqrt{2}}{2} \times \frac{2}{\sqrt{2}} &= 1 \\ \frac{\sqrt{2}}{2} \times \frac{2}{\sqrt{2}} &= 1 \\ \frac{2}{\sqrt{2}} \times \frac{2}{\sqrt{2}} &= 2 \end{aligned}$$

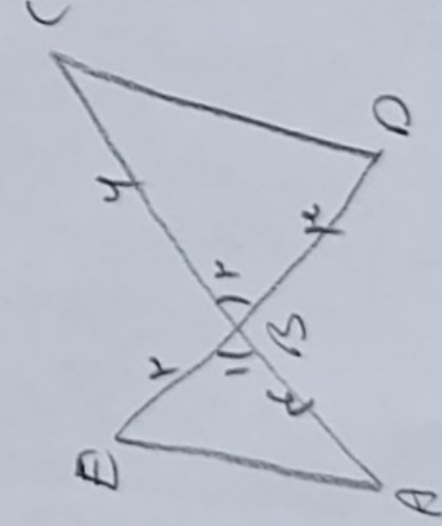
$$180^\circ - 2\alpha = 180^\circ - 2\alpha$$



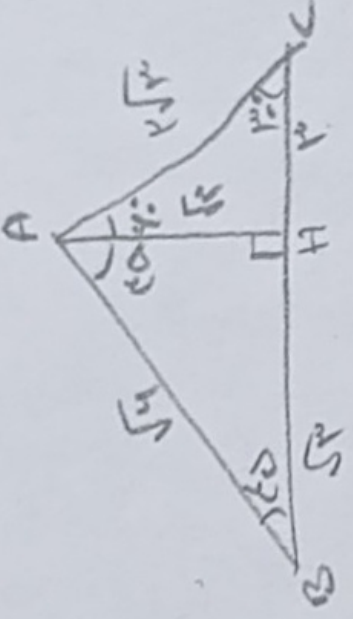
$$\sqrt{1+1} = \sqrt{2}$$



$$\frac{2\sqrt{2}}{2} = \sqrt{2} \quad AC = \frac{2\sqrt{2}}{2}$$

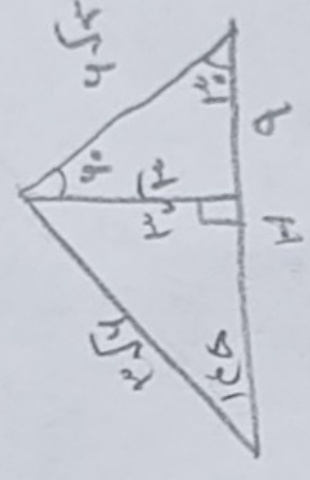


$$\frac{S_{ABE}}{S_{ACD}} = \frac{\frac{1}{2} \times 2 \times 2 \times \sin 45^\circ}{\frac{1}{2} \times 2 \times 2 \times \sin 45^\circ} = \frac{2}{2} = 1$$

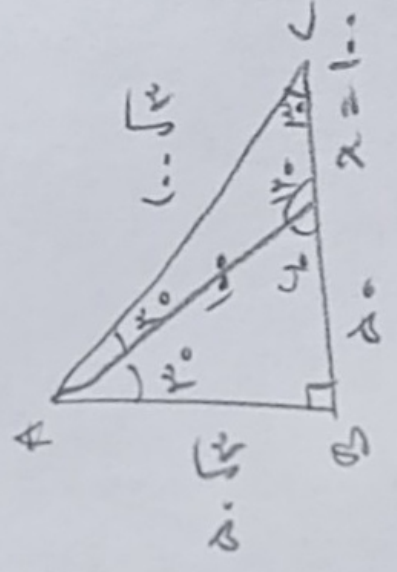


$$\frac{\sqrt{2}}{2} \times \sqrt{2} = 1$$

$$CH = 1$$



$$\frac{2\sqrt{2}}{2} \times \frac{2}{\sqrt{2}} = 2$$



$$\frac{\sqrt{2}}{2} \times 1 = \frac{\sqrt{2}}{2}$$

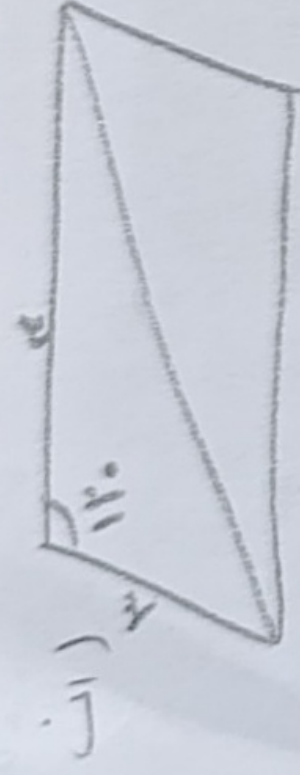
$$\sin 45^\circ = \frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{1}{\sqrt{2}}$$

$$\frac{AC}{AB} = \frac{BC \times AH}{\frac{2}{\sqrt{2}} \times \frac{2}{\sqrt{2}}} = \frac{1 + \sqrt{2}}{2}$$

$$\frac{1}{2} \times 2 \times 2 \times \sin 45^\circ$$

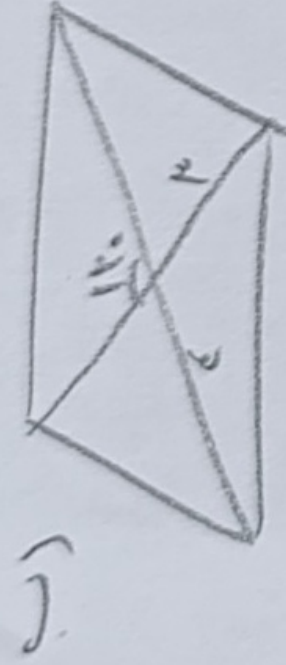
$$\frac{S_{ABE}}{S_{ACD}} = \frac{\frac{1}{2} \times 2 \times 2 \times \sin 45^\circ}{\frac{1}{2} \times 2 \times 2 \times \sin 45^\circ} = \frac{2}{2} = 1$$

$$R_1 = R_2$$

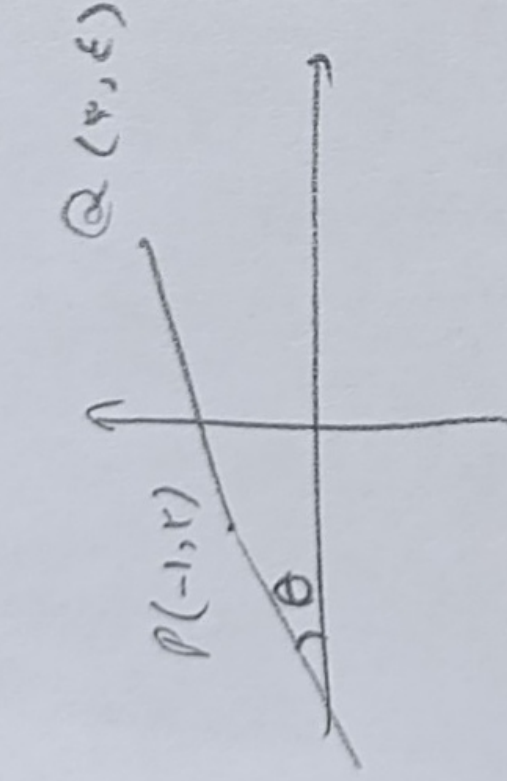


$$\frac{1}{r} ab \sin \alpha = \frac{1}{r} \times r \times r \times \frac{\sqrt{c}}{r} = r \sqrt{c}$$

$$r \sqrt{c} \times r \times r \sqrt{c}$$



$$\frac{1}{r} ab \sin \alpha = \frac{1}{r} \times r \times r \times \frac{\sqrt{c}}{r} = r \sqrt{c}$$



$$\frac{r-r}{r+1} = \frac{1}{r}$$

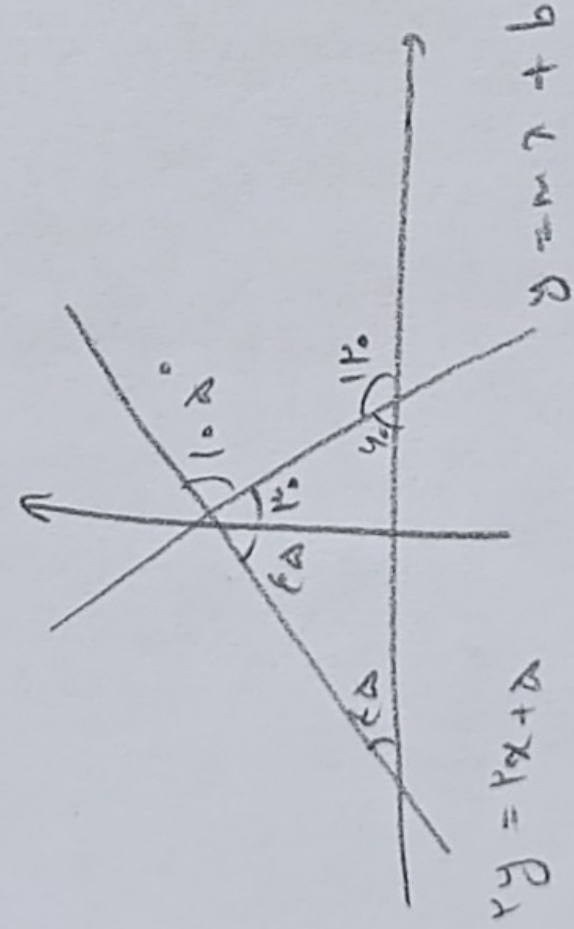
$$\tan \theta = \frac{1}{r}$$

$$\tan \theta + 1 = \frac{1}{\cos \theta}$$

$$\frac{1}{r} + \frac{1}{r} = \frac{1}{r} \cos \theta$$

$$\cos \theta = \frac{r}{2} \cos \theta = \frac{r \sqrt{c}}{2}$$

$$\tan \theta = \sqrt{r}$$



$$mb = \frac{a}{r} \times \sqrt{r} = \frac{a \sqrt{r}}{r}$$

$$y = \sqrt{r} x + \frac{a}{r}$$

$$m = \sqrt{r} \quad b = \frac{a}{r}$$

$$\tan \theta = 1 \quad \theta = 45^\circ$$

$$\frac{-\cos x + \cos x + \cot x}{\cot(\frac{\pi}{4})}$$

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

$$\sin x + \sin x \quad \cos(-x) = \cos x$$

$$\frac{\sin(90^\circ + x) + \cos(90^\circ + x)}{\cos(90^\circ + x) - \sin(90^\circ + x)} = \frac{1 + \sin x + 0 + \cos x}{-1 + \cos x - 0 + (\sin x)} = \frac{\cos x + \sin x + 1}{\cos x + \sin x - 1}$$

$$\cos 180^\circ + \cos x \quad \sin(-x) = -\sin x$$

$$-\sin(-x) = \sin x$$