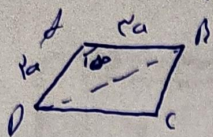


A quadrilateral ABCD



$$S_{ABCD} = 2 S_{ABC} = 2 \times \frac{1}{2} \times AD \times AB \times \sin A$$

$$= 2 \times \frac{1}{2} \times \sqrt{2} \times \sqrt{2} \times \frac{1}{2} = \sqrt{2} = \sqrt{2} \Rightarrow a_2 = \sqrt{2}$$

$$b_{\text{max}} = 2(AD \times AB) = 2(\sqrt{2}) = 2\sqrt{2}$$

$$AD = BC$$

$$AB = DC$$

$$A = C = 120^\circ$$

$$\triangle ABD \cong \triangle BCD$$

$$\Rightarrow S_{ABD} = S_{BCD}$$

$$S_{ABCD} = 2 S_{ABD}$$

$$S_{ABCD} = S_{ABD} + S_{BCD}$$

$$S_{ABC} = \frac{1}{2} \times AB \times AC \times \sin A = \frac{1}{2} \times \sqrt{2} \times \sqrt{2} \times \sin A = \frac{\sqrt{2}}{2} \sin A$$

$$S_{ADE} = \frac{1}{2} \times AE \times AD \times \sin A = \frac{1}{2} \times \sqrt{2} \times \sqrt{2} \times \sin A = \frac{\sqrt{2}}{2} \sin A$$

$$\Rightarrow |S_{ABC} - S_{ADE}|$$

$$= \left| \frac{\sqrt{2}}{2} \sin A \right| = \sqrt{2}$$

$$\Rightarrow \sin A = \frac{1}{\sqrt{2}} \Rightarrow A = 45^\circ \checkmark$$

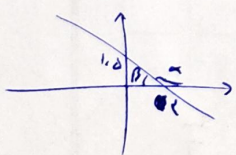
$$\sin A = -\frac{1}{\sqrt{2}} \text{ QBE}$$

$$\Rightarrow A = 120^\circ \text{ QBE} \Rightarrow A = 120^\circ \Rightarrow \tan A = \frac{\sqrt{3}}{1}$$

$$\frac{1}{\sqrt{\cos^2 \alpha}} - \tan \alpha = \frac{1}{|\cos \alpha|} - \frac{\sin \alpha}{\cos \alpha} = \frac{1 + \sin \alpha}{|\cos \alpha|} = \frac{1 + \sin \alpha}{|\cos \alpha|}$$

$$\Rightarrow \frac{\sin \alpha}{|\cos \alpha|} = \frac{\sin \alpha}{-\cos \alpha} \Rightarrow |\cos \alpha| = -\cos \alpha \Rightarrow \cos \alpha < 0$$

$$\frac{|\sin \alpha|}{\cos \alpha} = -\tan \alpha = -\frac{\sin \alpha}{\cos \alpha} \Rightarrow |\sin \alpha| = -\sin \alpha \Rightarrow \sin \alpha < 0$$



$$\tan B = \frac{1/d}{e} = \frac{c}{e}$$

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

$$\tan(180^\circ - \alpha) = \frac{c}{e} \Rightarrow \tan(\pi - \alpha) = \frac{c}{e}$$

$$\Rightarrow \tan \alpha = -\frac{c}{e}$$

$$\tan\left(\frac{\pi}{2} - \alpha\right) = \cot \alpha = \frac{1}{\tan \alpha} = \frac{1}{-\frac{c}{e}} = -\frac{e}{c}$$

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

$$z = \frac{-2r \sin \alpha}{-2 \sin \alpha} = \frac{r}{1}$$

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

$$\cos \alpha = \frac{r}{r} \Rightarrow \cos \alpha = \frac{r}{r} \Rightarrow 1 - \cos^2 \alpha = \sin^2 \alpha = \frac{\Delta}{r} \Rightarrow \sin \alpha = \frac{\sqrt{\Delta}}{r} \Rightarrow \sin \alpha = \frac{\sqrt{\Delta}}{r}$$

$$\Rightarrow \tan \alpha = \frac{\sin \alpha}{\cos \alpha} = \frac{-\sqrt{\Delta}}{r}$$

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

$$r m x + (m^2 - 1) y = r \Rightarrow y = \frac{-r m}{m^2 - 1} x + \frac{r}{m^2 - 1}$$

$$\text{slope} = \tan \theta = \sqrt{r} \Rightarrow \frac{-r m}{m^2 - 1} = \sqrt{r} \Rightarrow \sqrt{r} m^2 + r m - \sqrt{r} = 0$$

$$\text{Cắt trục } m \text{ tại } \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{\varepsilon + r}}{\sqrt{r}} = \frac{\varepsilon}{\sqrt{r}} = \frac{\varepsilon \sqrt{r}}{r}$$

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

$$\Rightarrow \frac{1 - \tan 2 + 1 + \tan 2}{1 + \tan 2} = \frac{1 - m + r + m}{r + m} \Rightarrow \frac{1 + \tan 2}{1} = \frac{r + m}{r}$$

$$\Rightarrow 1 + \tan 2 = \frac{r + m}{r} \Rightarrow \tan 2 = \frac{r + m}{r}$$

$$-\frac{\pi}{2} < 2 < \frac{\pi}{2} \Rightarrow -1 < \tan 2 < 1$$

$$-1 < \frac{r + m}{r} < 1$$

$$\Rightarrow -r < r + m < r$$

$$\Rightarrow -r < m < 0$$

$$\Rightarrow 1 + \tan 2 = \frac{r + m}{r} \Rightarrow \tan 2 = \frac{r + m}{r}$$

$$\tan(\alpha_0) \times \cos(\alpha_0) + \tan(\beta_0) \times \sin(\beta_0) = \tan(\alpha_0) \times \cos(\alpha_0) + \tan(\beta_0) \times \sin(\beta_0) \quad \text{--- 10}$$

$$= (-\sqrt{2}) \times \left(-\frac{\sqrt{2}}{2}\right) + \left(-\frac{\sqrt{2}}{2}\right) \left(\frac{\sqrt{2}}{2}\right) = \frac{2}{2} - \frac{2}{2} = 0$$