

نام و نام خانوادگی علیرضا انبی عسیری پاسخنامه تشریحی تکلیف شماره ۱۸ | کلاس (هم B)

(الف) $\frac{11\pi}{4} = \frac{\hat{O}}{110} \Rightarrow \hat{O} = 49^\circ = 30^\circ + 19^\circ \Rightarrow \tan \hat{O} = \tan 19^\circ$

(ب) $\left. \begin{aligned} \tan \frac{11\pi}{4} &= \tan 10^\circ \\ \sin \frac{11\pi}{4} &= \sin 330^\circ \\ \cos \frac{10\pi}{4} &= \cos 150^\circ \end{aligned} \right\} \Rightarrow$

$\frac{10\pi}{4} = \frac{\hat{O}}{110} \Rightarrow \hat{O} = 60^\circ = 30^\circ + 30^\circ \Rightarrow \sin \hat{O} = \sin 30^\circ$

$\frac{12\pi}{4} = \frac{\hat{O}}{110} \Rightarrow \hat{O} = 110^\circ = 30^\circ + 80^\circ \Rightarrow \cos \hat{O} = \cos 80^\circ$

$(-\frac{\sqrt{3}}{2} \times -\frac{\sqrt{3}}{2}) - \frac{1}{2} = \frac{1}{2} - \frac{1}{2} = 0$

$\cot u = f \Rightarrow \frac{\cos u}{\sin u} = f \Rightarrow \cos u = f \sin u$

$\frac{f \cos u - \sin u}{\cos u + \sin u} \xrightarrow{\cos u = f \sin u} \frac{11 \sin u - \sin u}{f \sin u + \sin u} = \frac{11 \sin u}{11 \sin u} = \frac{11}{11}$

$\sin \alpha \cos \alpha$

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

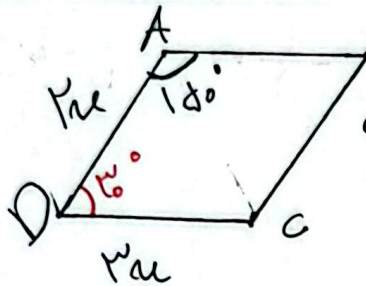
(الف) $\cos^2 \alpha = 1 - \sin^2 \alpha \Rightarrow \cos \alpha = -\frac{\sqrt{3}}{2} \Rightarrow \cos(\frac{11\pi}{4} + \alpha) = \cos(\pi + (-\frac{\sqrt{3}}{2} + \alpha)) = -\cos(\alpha - \frac{\pi}{4}) = -(\cos \alpha \cos \frac{\pi}{4} + \sin \alpha \sin \frac{\pi}{4}) = \frac{11}{11}$

$1 + \tan^2 \alpha = \frac{1}{\cos^2 \alpha} \Rightarrow \cos \alpha = \frac{1}{\sqrt{2}}, \sin \alpha = \frac{1}{\sqrt{2}} \Rightarrow \sin(\frac{13\pi}{4} + \alpha) = \sin(\frac{9\pi}{4} + \alpha) = (-\frac{\sqrt{2}}{2}) \cos \alpha + (-\frac{\sqrt{2}}{2}) \sin \alpha = -\frac{\sqrt{2}}{2} (\sin \alpha + \cos \alpha) = -\frac{1}{11}$

$\begin{cases} f \sin u + \cos u = \frac{f}{3} \\ \sin^2 u + \cos^2 u = 1 \end{cases} \xrightarrow{\text{از هم کم می کنیم}} \sin^2 u = \frac{1}{9}, \cos^2 u = \frac{2}{9} \Rightarrow \tan^2 u = \frac{\sin^2 u}{\cos^2 u} = \frac{1}{2}$

$$S_{ABE} = \frac{1}{2} \times \sqrt{3} \times \frac{\sqrt{3}}{2} \times \sin \alpha = EQ \Rightarrow \sqrt{3} \sin \alpha = EQ \Rightarrow$$

$$\sin \alpha = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3} \quad \left. \begin{array}{l} \text{max} = 120^\circ \\ \text{min} = 60^\circ \end{array} \right\} \Rightarrow \frac{120}{60} = \text{Circled 2}$$



با فرض سوال: $A + D \in 180^\circ \Rightarrow D = 60^\circ$
در متناهی الاضلاع

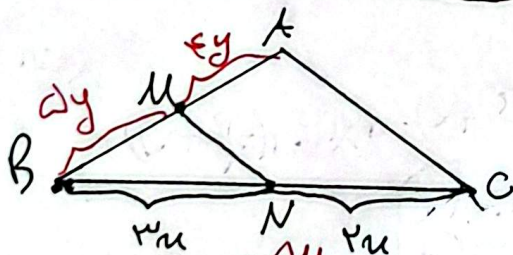
$$S_{ABED} = 20 \times 10 \times \sin 60^\circ = 100 \times \frac{\sqrt{3}}{2} = 50\sqrt{3} \Rightarrow$$

$$n = 11 \Rightarrow n = \oplus \sqrt{3} \Rightarrow P_{ABCD} = (20 \times 10) + (20 \times 10) = 400$$

$$S_{ABE} - S_{ADE} = LVQ \Rightarrow \frac{1}{2} \sin \alpha \times 10 \times 20 - \frac{1}{2} \times \sin \alpha \times 20 \times 10 = LVQ \Rightarrow$$

$$\frac{1}{2} \sin \alpha (20 \times 20) = LVQ = 20 \sin \alpha = 20 \Rightarrow \sin \alpha = \frac{1}{2} \Rightarrow$$

$$\text{Arcsin } \frac{1}{2} = 30^\circ \Rightarrow \tan 30^\circ = \frac{\sqrt{3}}{3} \quad \checkmark$$



$$\frac{S_{ABE}}{S_{BMN}} = \frac{\frac{1}{2} \times \sin \beta \times AB \times AC}{\frac{1}{2} \times \sin \beta \times BM \times MN} = 4 \Rightarrow$$

$$\triangle AB \sim \triangle BMN \Rightarrow AB = 4y \Rightarrow AM = y \Rightarrow \frac{BM}{AM} = \frac{4y}{y} = 4 \quad \text{بنا بر 4}$$

$$-\frac{1}{\cot \alpha} = -\tan \alpha = \frac{|\sin \alpha|}{\cos \alpha} \Rightarrow \sin \alpha < 0 \quad \text{Circled 1}$$

$$-\tan \alpha = \frac{1 + \sin \alpha}{|\cos \alpha|} - \frac{1}{|\cos \alpha|} = \frac{\sin \alpha}{|\cos \alpha|} \Rightarrow \cos \alpha < 0 \quad \text{Circled 2}$$

$$\left. \begin{array}{l} \text{Circled 1 and 2} \\ \sin \alpha < 0 \\ \cos \alpha < 0 \end{array} \right\} \Rightarrow 180^\circ < \alpha < 270^\circ$$

در ناحیه سوم