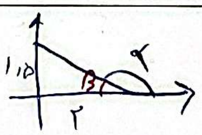
یازدهم B

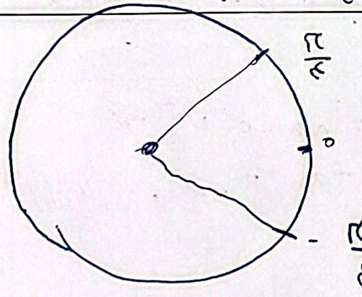
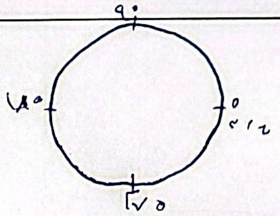
فرشاد جابرزاده

©Ç√Ç¸ç/Çsÿ♥0ÿI♦Ç2ÇïÇ‡Ç√ç ♥Çëç Ç♦Ç|ÿ©hÿ'♦Ç2ÇçÇΣÇ√ç ♥Ç┬Ç©┬ïÿ♥|ÿÿßà Çºǲä Çºÿ©xé Ç╘

[illegible]

$S_{\square} = ab\sin\alpha$ (اضلاع — زاویه بین) می دانیم که sin دو زاویه میان دو ضلع متوازی الاضلاع با هم برابر است اضلاع را به صورت $4x$ و $2x$ می نویسیم ⇒ $\frac{4x}{2x} = \frac{4}{2}$ $\alpha = 150° \to \sin\alpha = \frac{1}{2}$ $S = 4x \times 2x \times \sin\alpha = 8x^2 \times \frac{1}{2}$ $S = 4x^2 = 72 \Rightarrow x^2 = 18 \to x = 3\sqrt{2}$ محیط متوازی الاضلاع $= 6x + 4x = 10x$ ← $= 3\sqrt{2} \times 10 = 30\sqrt{2}$	1
$S_{ABC} = \frac{1}{2} AB \times AC \times \sin\hat{A} = \frac{35}{2} \times \sin\hat{A}$ $S_{ADE} = \frac{1}{2} \times AD \times AE \times \sin\hat{A} = 14 \times \sin\hat{A}$ از هم کم می کنیم: $\lvert S_{ABC} - S_{ADE} \rvert =$ $\frac{35}{2}\sin\hat{A} - \frac{28}{2}\sin\hat{A} = \frac{7}{2}\sin\hat{A} = \frac{7}{4} \to \sin\hat{A} = \frac{1}{2} \Rightarrow \hat{A} = 30°$ زاویه حاده است سینوس ← $\tan\hat{A} = \tan 30° = \frac{\sqrt{3}}{3}$ $\tan\hat{A} = \frac{\sqrt{3}}{3}$	2
$\frac{1+\sin\alpha}{\lvert\cos\alpha\rvert} = \frac{1}{\sqrt{\cos^2\alpha}} - \tan\alpha \to \frac{1+\sin\alpha}{\lvert\cos\alpha\rvert} = \frac{1}{\lvert\cos\alpha\rvert} - \tan\alpha \to \frac{\sin\alpha}{\lvert\cos\alpha\rvert} = -\tan\alpha$ نتیجه می شود $0 > \cos\alpha$ $\frac{\lvert\sin\alpha\rvert}{\cos\alpha} = -\frac{1}{\cot\alpha} = -\tan\alpha \to 0 > \sin\alpha$ نتیجه می شود اگر شرایط دو مرحله را بررسی کنیم به $\pi < \alpha < \frac{3\pi}{2}$ می رسیم یعنی α در ناحیه سوم قرار دارد	3
$\tan(\frac{\pi}{2} - \alpha) = +\cot(\alpha)$  $\beta = 180 - \alpha = \pi - \alpha$ $\tan(\beta) = \tan(\pi - \alpha) = -\tan(\alpha)$ $\tan(\beta) = \frac{\frac{3}{2}}{2} = \frac{3}{4} \to \tan(\alpha) = -\frac{3}{4}$	4
$238° = \frac{3\pi}{2} - 32 = 270 - 32 \to \cos(238°) = -\sin(32)$ $(\frac{3\pi}{2} - \alpha)$ $148° = 180 - 32 = \pi - 32 \to \sin(148°) = \sin(32°)$ $(\pi - \alpha)$ $212° = 180 + 32 = \pi + 32 \to \sin(212°) = -\sin(32)$ $(\pi + \alpha)$ $302° = 270 + 32 = \frac{3\pi}{2} + 32 \to \cos(302°) = \sin(32)$ $(\frac{3\pi}{2} + \alpha)$ $\frac{-3\sin(32) - 2\sin(32)}{-\sin(32) - \sin(32)} = \frac{-5\sin(32)}{-2\sin(32)} = \frac{5}{2} = 2.5$	5

ناصحه چهارم غوق

$\cos\alpha = \frac{2}{3} \rightarrow \cos^2 + \sin^2\alpha = 1 \rightarrow \frac{4}{9} + \sin^2\alpha = 1 \rightarrow \sin^2(\alpha) = \frac{5}{9}$ $\sin\alpha = \frac{\pm\sqrt{5}}{3}$ $1 + \tan^2 = \frac{1}{\cos^2} \rightarrow \frac{9}{4} = 1 + \tan^2 \rightarrow \tan^2 = \frac{5}{4} \rightarrow \tan(\alpha) = \pm\frac{\sqrt{5}}{2}$ $\frac{\cos(\alpha) \quad -\sin\alpha}{\sin(\frac{\pi}{2}+\alpha) - \sin(\pi-\alpha)}$ ~~$\tan^2\alpha - 1$~~ $\frac{1}{2}$ $\frac{\sqrt{(\frac{2}{3} + \frac{\sqrt{5}}{3})}}{} = \frac{8 + 4\sqrt{5}}{3}$	۶
$180 < \alpha < 270$, $\sin^2\alpha + \cos^2\alpha = 1$, $\sin\alpha = 2\cos\alpha \rightarrow \sin^2\alpha = 4\cos^2\alpha$ $\sin^2 + \cos^2(\alpha) = 4\cos^2(\alpha) + \cos^2(\alpha) = 1 \rightarrow \cos^2\alpha = \frac{1}{5} \rightarrow \cos(\alpha) = \left\| \frac{\sqrt{5}}{5} \right\|$ با توجه به ربع زاویه α $\cos(\alpha) = \frac{-\sqrt{5}}{5}$ $\cos(\alpha) = \frac{-\sqrt{5}}{5}$	۷
۱- اسرارکیب خط را بدحسب ... $\frac{-2m}{m^2-1} =$ تیغ ... $\rightarrow \frac{-2m}{m^2-1} = \tan\alpha = \sqrt{3}$ ($\alpha = 60°$) ۲- چند ریشه معادله درجه دو $-2m = \sqrt{3}m^2 - \sqrt{3} \rightarrow \sqrt{3}m^2 + 2m - \sqrt{3} = 0 \rightarrow m_1 = \frac{-2+4}{2\sqrt{3}}$ $\Delta = 16 = b^2 - 4ac$ $m_2 = \frac{-2-4}{2\sqrt{3}}$ $m_1 - m_2 = \frac{4}{\sqrt{3}}$ $m_1 - m_2 = \frac{-2+4+2+4}{2\sqrt{3}} = \frac{8}{2\sqrt{3}}$	۸
 $\frac{\pi}{2} > \frac{\pi}{4} - x > 0$ $\tan\frac{\pi}{2} = \infty$ $+\frac{\pi}{4} > x > -\frac{\pi}{4}$ $\tan 0 = 0$ $0 < \tan(\frac{\pi}{4} - x) < +\infty$ $0 < \frac{1-m}{2+m} \rightarrow -2 < m < 1$	۹
 $\cos = \frac{5\pi}{3} \rightarrow \tan 300° = -\sqrt{3}$ $\tan 480° = \tan 120° = -\sqrt{3}$ $\cos 210° = \frac{-\sqrt{3}}{2}$ $\sin 840° = \sin 120° = \frac{\sqrt{3}}{2}$ $\tan 480° \times \sin 840° = -\sqrt{3} \times \frac{\sqrt{3}}{2} = -\frac{3}{2}$ $-\sqrt{3} \times \frac{-\sqrt{3}}{2} = \frac{3}{2}$ $\tan 300° \times \cos 210° =$ $\frac{3}{2} - \frac{3}{2} = 0 = \tan(-300)° \times \cos(210)° +$ $\tan(480)° \times \sin(840)°$	۱۰