

نام و نام خانوادگی: امیرمحمد (مومنی) پاسخنامه تشریحی تکلیف شماره ۱۸۱ کلاس: دهم پر A

الف) $\tan \frac{11\pi}{6} + \sin \frac{13\pi}{6} \cos \frac{13\pi}{6} = \tan 135^\circ + \sin 135^\circ \cos 135^\circ = \frac{-1}{2}$ ✓
 $\tan(\pi - \frac{\pi}{6}) + \sin(\pi - \frac{\pi}{6}) \cos(\pi - \frac{\pi}{6}) = -1 + \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2}$ جواب

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ب) $\tan \frac{13\pi}{6} \sin \frac{11\pi}{6} + \cos \frac{10\pi}{6} = \frac{-1}{\sqrt{3}} \times \frac{-\sqrt{3}}{2} - \frac{1}{2} = 0$ ✓
 $\tan 150^\circ \times \sin 150^\circ + \cos 180^\circ$

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$\frac{\cos}{\sin} = \varepsilon \rightarrow \cos = \varepsilon \sin \rightarrow \frac{\varepsilon \sin - \sin x}{\cos + \sin x} = \frac{\varepsilon \sin - \sin x}{\varepsilon \sin + \sin x} = \rightarrow$
 $\frac{11 \sin}{5 \sin} = \frac{11}{5}$ ✓ جواب

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$\sin \alpha = 2 \cos \alpha \rightarrow \tan \alpha = \frac{2 \cos}{\cos} = 2 \rightarrow \sin \alpha = 2x$ و $\cos = x$
 $\frac{2}{\sqrt{5}} \rightarrow \cos \alpha = \frac{1}{\sqrt{5}} \rightarrow \frac{-1}{\sqrt{5}}$ ✓ جواب

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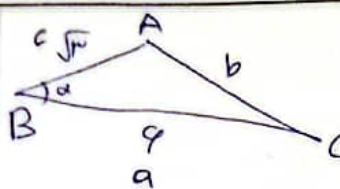
الف) $\cos \frac{11\pi}{6} \cos \alpha - \sin \frac{11\pi}{6} \sin \alpha \rightarrow \frac{-\sqrt{3}}{2} \times \frac{\sqrt{3}}{10} - \frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{10} = \frac{11}{10} - \frac{3}{10} = \frac{8}{10} = \frac{4}{5}$ ✓
 $\frac{-12}{10} = \frac{12}{5}$ جواب

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ب) $\sin \frac{13\pi}{6} \cos \alpha + \sin \alpha \cos \frac{13\pi}{6} = \frac{-\sqrt{3}}{2} \times \frac{1}{\sqrt{3}} + \frac{1}{\sqrt{3}} \times \left(\frac{-\sqrt{3}}{2}\right) = \frac{-\sqrt{3} - \sqrt{3}}{2\sqrt{3}} = \frac{-2\sqrt{3}}{2\sqrt{3}} = \frac{-2}{2} = -1$ ✓

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$r \sin^2 x + \cos^2 x = \frac{\varepsilon}{\mu} \rightarrow \sin^2 + \sin^2 + \cos^2 = \frac{\varepsilon}{\mu} \rightarrow \sin^2 + 1 = \frac{\varepsilon}{\mu} \rightarrow \sin^2 = \frac{\varepsilon}{\mu} - 1$
 $\sin^2 = \frac{1}{\mu} \rightarrow \frac{1}{\mu} + \frac{1}{\mu} + \cos^2 x = \frac{\varepsilon}{\mu} \rightarrow \frac{2}{\mu} + \cos^2 x = \frac{\varepsilon}{\mu} \rightarrow \cos^2 = \frac{\varepsilon - 2}{\mu}$
 $\rightarrow \tan^2 = \frac{\sin^2}{\cos^2} = \frac{\frac{1}{\mu}}{\frac{\varepsilon - 2}{\mu}} = \frac{1}{\varepsilon - 2}$ ✓ جواب

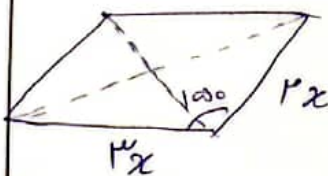


$$S_{ABC} = \frac{1}{2} \times c \times a \times \sin \alpha = \frac{1}{2} \times \sqrt{5} \times \sqrt{5} \times \sin \alpha = \frac{5}{2} \sin \alpha$$

$$\sqrt{5} \sin \alpha = \frac{5}{2} \rightarrow \sin \alpha = \frac{5}{2\sqrt{5}} = \frac{\sqrt{5}}{2}$$

$$\rightarrow \alpha = 90^\circ \angle 110^\circ \rightarrow \frac{110^\circ}{90^\circ} = \boxed{1.22} \rightarrow \text{ممنوع}$$

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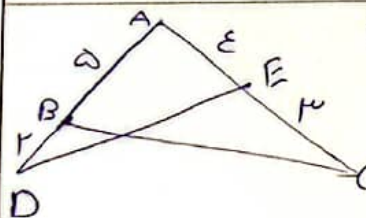


$$S = r_x \times r_x \times \sin 100^\circ = r_x^2 \times \frac{1}{2} = r_x^2 = a^2$$

$$\rightarrow r_x^2 = 1 \rightarrow r_x = \sqrt{1} = 1$$

$$\text{المساحة: } 2(r_x + r_x) = 10 \rightarrow r_x = \frac{10}{4} = \boxed{2.5}$$

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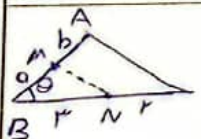


$$S_{ABO} - S_{ADE} = \frac{1}{2} \times a \times b \times \sin A - \frac{1}{2} \times a \times b \times \sin A = \frac{1}{2} \times a \times b \times \sin A$$

$$\rightarrow \frac{1}{2} \times a \times b \times \sin A = \frac{1}{2} \times a \times b \times \sin A \rightarrow \sin A = \frac{1}{2} \rightarrow A = 30^\circ$$

$$\tan 30^\circ = \frac{1}{\sqrt{3}}$$

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$$\frac{\frac{1}{2} \times (a+b) \times a \times \sin \theta}{\frac{1}{2} \times a \times b \times \sin \theta} = \mu$$

$$a(a+b) = \mu a$$

$$ab = \epsilon a \rightarrow \frac{a}{b} = \frac{a}{\epsilon} = \boxed{1/\epsilon} \rightarrow \text{ممنوع}$$

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$$\frac{|\sin \alpha|}{\cos \alpha} = \frac{-1}{\cos \alpha} \Rightarrow \frac{|\sin \alpha|}{\cos \alpha} = \frac{-\sin \alpha}{\cos \alpha} \rightarrow |\sin \alpha| = -\sin \alpha \rightarrow \sin \alpha < 0$$

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

$$\frac{1 - \sin \alpha}{\cos \alpha} = \frac{1 + \sin \alpha}{\cos \alpha} \rightarrow 1 - \sin \alpha = 1 + \sin \alpha \rightarrow \sin \alpha = 0$$

$$\textcircled{1}, \textcircled{2} \Rightarrow \sin < 0 \Rightarrow \cos < 0 \rightarrow \boxed{\cos \alpha < 0} \rightarrow \text{ممنوع}$$

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