

نام و نام خانوادگی: پاسنامه تشریحی تکلیف شماره ۱۸ کلاس ... (هم) (جست) B

الف) $\tan(3\pi - \frac{\pi}{6}) + \sin(4\pi - \frac{\pi}{6}) \times \cos(3\pi + \frac{\pi}{6})$
 $= -\tan(\frac{\pi}{6}) + (-\sin(\frac{\pi}{6}) \times -\cos(\frac{\pi}{6})) = -1 + \frac{1}{2} = -\frac{1}{2}$ ✓

ب) $\tan(3\pi - \frac{\pi}{6}) \times \sin(4\pi - \frac{\pi}{6}) + \cos(3\pi + \frac{\pi}{6}) \rightarrow (-\tan(\frac{\pi}{6}) \times -\sin(\frac{\pi}{6})) - \cos(\frac{\pi}{6})$
 $= \frac{1}{2} - \frac{1}{2} = 0$ ✓

نسبتی کبی $\rightarrow \frac{3\cot n - 1}{\cot n + 1} \rightarrow \frac{3(4) - 1}{4 + 1} = \frac{11}{5} = 2.2$ ✓

$\sin^2 \alpha + \cos^2 \alpha = 1 \rightarrow (2\cos \alpha)^2 + \cos^2 \alpha = 1 \rightarrow 4\cos^2 \alpha + \cos^2 \alpha = 1$
 $\rightarrow 5\cos^2 \alpha = 1 \rightarrow \cos^2 \alpha = \frac{1}{5} \rightarrow \cos \alpha = \pm \frac{1}{\sqrt{5}}$
 $\rightarrow \cos \alpha = -\frac{1}{\sqrt{5}}$ ✓

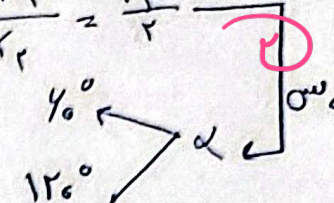
الف) $\cos(\frac{3\pi}{4} + \alpha) \Rightarrow \cos(\frac{3\pi}{4}) \cos \alpha - \sin(\frac{3\pi}{4}) \sin \alpha$
 $\cos \alpha = \frac{1}{\sqrt{2}} \rightarrow \cos \alpha = \frac{1}{\sqrt{2}}$
 $\sin(\frac{3\pi}{4} + \alpha) = \sin(\frac{3\pi}{4}) \cos \alpha + \cos(\frac{3\pi}{4}) \sin \alpha$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

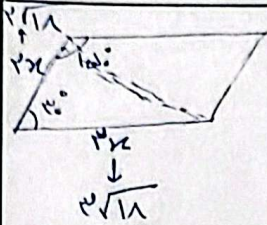
$\sin^2 n - \cos^2 n \rightarrow 2(1 - \cos^2 n) + \cos^2 n = \frac{4}{5} \rightarrow \cos^2 n = \frac{2}{5}$

$1 + \tan^2 n = \frac{1}{\cos^2 n} \rightarrow 1 + \tan^2 n = \frac{5}{2} \rightarrow \tan^2 n = \frac{3}{2}$ ✓

$$S_{\triangle} = \frac{1}{2} \times 4 \times \sqrt{3} \times \sin \alpha = f_1 a$$

$$3\sqrt{3} \sin \alpha = f_1 a \rightarrow \sin \alpha = \frac{f_1 a}{3\sqrt{3}} = \frac{f_1 a \sqrt{3}}{9} = \frac{\sqrt{3}}{2}$$

$$\frac{120^\circ}{40^\circ} = \boxed{2\sqrt{3}}$$




$$\left(\frac{1}{2} \times 4 \times 4 \times \sin 40^\circ \right) \times 4 = a f$$

$$4 \times 4 \times \frac{1}{2} \rightarrow 4 \times 4 = a f \rightarrow 4 \times 4 = 16 \rightarrow 4 \times 4 = 16$$

$$P = (4\sqrt{16} + 4\sqrt{16}) \times 4 = 10\sqrt{16}$$

$$S_{ABC} = \frac{1}{2} \times a \times v \times \sin \hat{A}$$

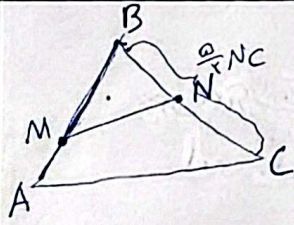
$$= \frac{14a}{2} \sin \hat{A} = 7a \sin \hat{A}$$

$$S_{ADE} = \frac{1}{2} \times f \times v \times \sin \hat{A}$$

$$= \frac{1}{2} f \sin \hat{A}$$

$$7a \sin \hat{A} - \frac{1}{2} f \sin \hat{A} = 14a \rightarrow 7 \sin \hat{A} = 14a \rightarrow \sin \hat{A} = 2a = \frac{1}{2}$$

$$\tan 30^\circ = \frac{1}{\sqrt{3}} = \frac{f}{7} \rightarrow A < 30^\circ$$



$$2BN = 3NC \rightarrow BN = \frac{3}{5} NC \rightarrow \frac{3}{5} NC + NC = \frac{8}{5} NC$$

$$S_{ABC} = \frac{1}{2} \times \frac{8}{5} NC \times AB \times \sin \hat{B} = \frac{4}{5} \left(\frac{1}{2} \times \frac{8}{5} NC \times MB \times \sin \hat{B} \right)$$

$$\frac{4}{5} NC \times AB \times \sin \hat{B} = \frac{4}{5} NC \times MB \times \sin \hat{B}$$

$$\frac{4}{5} BM + \frac{4}{5} AM = \frac{4}{5} MB \rightarrow \frac{4}{5} AM = MB \Rightarrow \frac{BM}{AM} = \frac{4}{5}$$

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

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

$$\begin{matrix} \cos 70^\circ \rightarrow \tan \alpha = -\tan 70^\circ \\ \cos 110^\circ \rightarrow \tan \alpha = \tan 110^\circ \end{matrix}$$

$$\Rightarrow \cos \alpha < 0, \sin \alpha < 0 \rightarrow \alpha \text{ is in the second quadrant}$$