نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۲۸ ... کلاس .....

۱۹٫۷۵

۱ (۲)

$\frac{1}{|\cos a|} - \tan a = \frac{1}{|\cos a|} - \frac{\sin a}{|\cos a|} \Rightarrow \frac{\sin a}{\cos a} = \frac{\sin a}{|\cos a|}$

$\cos a > 0$ ① $\quad \frac{\sin a}{\cos a} = \frac{\cos a}{|\cos a|} \Rightarrow \sin a > 0$ ②

①, ② $\Rightarrow$ a یال اول

۲ (۲)

$-\frac{\pi}{4} < \frac{m\pi}{4} < \frac{3\pi}{4} \quad -\frac{1}{2} < \sin\frac{m\pi}{4} \leq 1 \quad -\frac{1}{2} < \frac{m-1}{4} \leq 1 \quad -2 < m-1 \leq 4$

$-1 < m \leq 5$ ✓

۳ (۱٫۷۵)

$\frac{1+\sin^2 m}{\sin m \cos m} = 3 \quad \sin m \cos m = \frac{-1}{3} \quad (\sin^2 m + \cos^2 m) = (\sin m + \cos m)(1 - \sin m \cos m)$

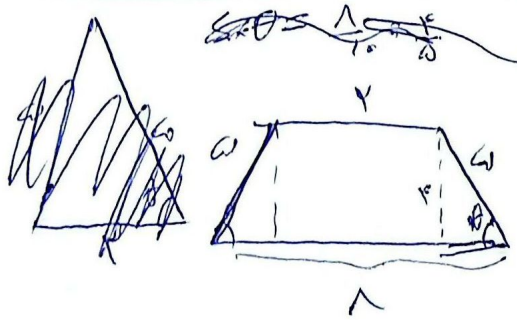
$\sin m + \cos m < 0$ $\quad m^2 = 1 + 2\sin m \cos m = 1 - \frac{2}{3} = \frac{1}{3} \Rightarrow \sin m + \cos m = \frac{-\sqrt{3}}{3}$

$\frac{3\pi}{4} < m < \frac{5\pi}{4}$

$(\sin m + \cos m)\left(1 + \frac{1}{3}\right) = \frac{-4\sqrt{3}}{9} = \sin^3 m + \cos^3 m \quad \left| \frac{1}{\sin^2 m + \cos^2 m} \right. = -\frac{\sqrt{3}}{4}$

$-\frac{\sqrt{3}}{3}$ $\quad \frac{4}{3}$ دقت! $\quad -\frac{3\sqrt{3}}{4}$

۴ (۲)



$2 \times 5 \cos\theta + 2 = 10 \times \frac{4}{5} + 2 = 8 + 2 = 10$

$h = 4 \quad \frac{(2+8)}{2} \times 4 = 20$ ✓

۵ (۲)

$-\cot 10 \times \tan 10 + \sin 10 \times \sin 10 = \sin^2 10 - 1 = -\cos^2 10 \Rightarrow k = -1$ ✓

$\sqrt{2} \times \frac{\sqrt{3}}{2} \cos 45 + \sqrt{2} \times \frac{\sqrt{3}}{2} \times \cos 45 = \left(\frac{\sqrt{3}}{2}+1\right)\cos 45$

$\frac{\sqrt{2}}{2}$

۶ (۲)

$\cos\frac{\pi}{12} \times \cos\frac{\pi}{6} \times \cos\frac{\pi}{3} \times \cos\frac{\pi}{2}$

$\cos\frac{\pi}{12} = \frac{1+\cos\frac{\pi}{6}}{2} = \frac{2+\sqrt{3}}{4}$

$\frac{1}{4} \times \frac{2+\sqrt{3}}{4} \times \frac{\sqrt{3}}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{2\sqrt{3}+3}{16}$

$2\sin a\cos a = \sin 2a$

$\cos a = \frac{\sin 2a}{2\sin a}$

۷ (۲)

$\frac{4}{5} + \frac{4}{5}\sin m = 1 - \sin m \quad \sin m = \frac{1}{5} \quad \cos m = \frac{\sqrt{6}}{5} \quad \tan m = \frac{1}{\sqrt{6}}$

$\sqrt{\frac{1+\frac{1}{5}}{1-\frac{1}{5}}} = \sqrt{\frac{6}{4}} = \frac{\sqrt{6}}{2}$

۸ (۲)

$\frac{1+\cos\theta}{\sin\theta} = \cot\frac{\theta}{2}$

$\frac{\sin\theta}{1-\cos\theta} = \frac{2\sin\frac{\theta}{2}\cos\frac{\theta}{2}(1+\cos\theta)}{2\sin\frac{\theta}{2}\cos\frac{\theta}{2} \times 2\sin^2\frac{\theta}{2}} = \frac{1+\cos\theta}{2\sin\theta} = \cot\frac{\theta}{2}$

$= \frac{2\sin\theta}{1-\cos\theta} + \frac{1+\cos\theta}{2\sin\theta} = 2\cot\frac{\theta}{2} \Rightarrow k = 2$

۹ (۲)

$\cos\frac{11\pi}{4} = \cos\frac{3\pi}{4} = -\frac{\sqrt{2}}{2}, \quad \sin\frac{3\pi}{4} = \frac{\sqrt{2}}{2}$

$\cos\left(\frac{11\pi}{4}+a\right) = \cos\left(\frac{3\pi}{4}+a\right) = -\frac{\sqrt{2}}{2} \times -\frac{7\sqrt{2}}{10} - \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{10} = \frac{14-2}{20} = \frac{12}{20}$

$= \frac{6}{10} = \frac{3}{5} = \cos\left(\frac{11\pi}{4}+a\right)$

$\sin a = \frac{\sqrt{2}}{10}$

$\cos a = \frac{7\sqrt{2}}{10}$

۱۰ (۲)

موفق باشید