۱۷٫۷۵

[illegible] تکلیف شماره ۲ ریاضی پیش A

۱- $\cos\frac{7\pi}{6} = -\frac{\sqrt{3}}{2}$ $\quad \sin\frac{4\pi}{3} = -\frac{\sqrt{3}}{2}$

$\cos\frac{\pi}{3} = \frac{1}{2}$ $\quad \sin\frac{11\pi}{6} = -\frac{1}{2}$ $\quad \tan\frac{5\pi}{6} = -\frac{1}{\sqrt{3}}$

$\Rightarrow \frac{a\times -\frac{\sqrt{3}}{2} + b\times -\frac{\sqrt{3}}{2}}{a\times -\frac{1}{2} + b\times \frac{1}{2}} = \frac{1}{-\sqrt{3}} \Rightarrow \frac{-\frac{\sqrt{3}}{2}(a+b)}{\frac{1}{2}(b-a)} = -\frac{1}{\sqrt{3}}$ ۲

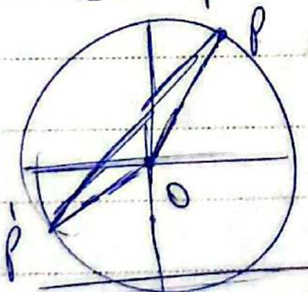
$\Rightarrow \frac{3}{1}(a+b) = \frac{1}{2}(-a+b) \Rightarrow 4a = -2b \Rightarrow b = -2a$

$\Rightarrow \frac{b}{a} = \frac{-2a}{a} = -2$ ✓

۲- $OPP' \to OP' + OP + PP' = 2 + \frac{\sqrt{2}+\sqrt{6}}{2}$ ✓ $\quad y = \sqrt{1-\frac{1}{4}} = \sqrt{\frac{3}{4}}$

$= \frac{4+\sqrt{2}+\sqrt{6}}{2} \Rightarrow PP' = \sqrt{(x_P - x_{P'})^2 + (y_P - y_{P'})^2}$

$= \sqrt{\left(\frac{1}{2}+\frac{\sqrt{3}}{2}\right)^2 + \left(\frac{\sqrt{3}}{2}+\frac{1}{2}\right)^2} = \frac{\sqrt{2}+\sqrt{6}}{2}$ ۲



$P\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

۳- $D = \frac{180}{9} = 20°$ ← حالت عقربه کار

هر ۲ دقیقه ← عقربه ساعت‌شمار [illegible] ← [illegible]

20×40 ✓ [illegible] ۲

۴- $1320 - 550m \Rightarrow 1550m - 960 = 2860$, $m = 6$ ✓

, $m = 1/7$

نقطه ب

پس ازانجا که تعداد بازدید بسیار از رابطه ساعت است.

۲

۵- $-\frac{1}{2} \leq \sin x \leq 1 \Rightarrow -\frac{1}{2} \leq \frac{m-3}{5} \leq 1 \Rightarrow -\frac{5}{2} \leq m-3 \leq 5$

$+3 \quad \frac{1}{2} \leq m \leq 8 \Rightarrow$ ✓ ۲ ✓ جواب ۸

۶- $\sin(90+15) = \cos 15 \quad \cos(270-15) = -\sin 75$

$\cos(165) = \cos(180-15) = -\cos 15 \quad \sin(180+75) = -\sin 75$

$\Rightarrow \frac{\cos 75 - k\sin 75}{-\cos 75 - 2\sin 75} \rightarrow \frac{1-k\tan 75}{-1-2\tan 75} = \frac{1-0.75k}{-1-0.5} = \frac{1-0.75k}{-1.5}$

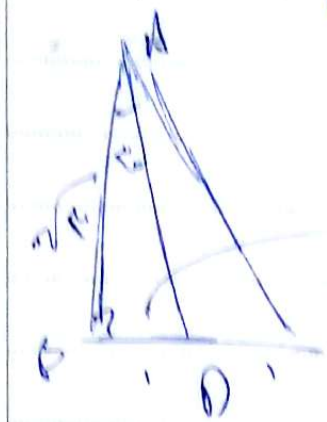
$\times 2 \rightarrow 0.75k = 5.5 \Rightarrow k = 22$ ✓ ۲

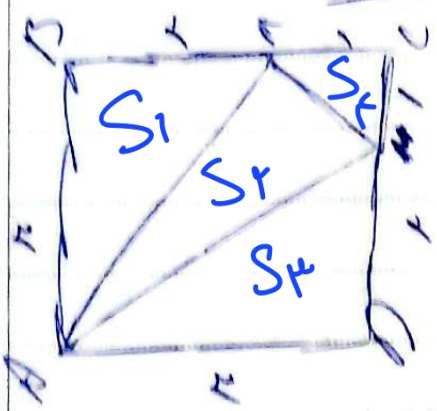
۷- $\frac{1-\cos x}{1+\cos x} = 2 \rightarrow 1-\cos x = 2+2\cos x \rightarrow 3\cos x = -1 \rightarrow \cos x = -\frac{1}{3}$

$\Rightarrow \sin^2 + \cos^2 = 1 \Rightarrow \sin^2 x = \frac{8}{9} \Rightarrow \sin x = \frac{2\sqrt{2}}{3}$

$\frac{\cot x + \cot x}{\tan x - 2\tan x} = \frac{2\cot x}{-\tan x} , \tan x = \frac{\frac{2\sqrt{2}}{3}}{-\frac{1}{3}} = -2\sqrt{2}$ ۲

$\Rightarrow \cot x = \frac{1}{-2\sqrt{2}} \Rightarrow \frac{2 \times \frac{-1}{2\sqrt{2}}}{2\sqrt{2}} = -\frac{1}{4}$ ✓





$AN = AM \rightarrow AM^2 = (AB)^2 + (BM)^2 = 13$

$AM = \sqrt{13}$

$S_{کل} = S_1 + S_2 + S_3 + S_4$

$9 = 3 + S_2 + 3 + \frac{1}{2} \rightarrow S_2 = 2/5$

$2/5 = \frac{1}{2} \times \sqrt{13} \times \sqrt{13} \times \sin\theta \rightarrow \sin\theta = \frac{5}{13}$