بازه‌ی کلاس A — تمرین‌های اضافی

① $S_{\triangle} = \frac{1}{2}ab\sin\theta = 9\sqrt{3} \Rightarrow \frac{1}{2}\times 4k\times 3k = 9\sqrt{3}$ $\quad 12k^2 = 9\sqrt{3}$ $\quad k^2 = 3\sqrt{3}$ $\quad k = \sqrt{3\sqrt{3}}$

$a = 4\sqrt{3}$, $b = 9\sqrt{3}$ $\quad$ محیط $= 13\sqrt{3}$

② $\frac{1}{2}\sin A \times (8\times 6 - 4\times 7) = 14\sqrt{3}\times\frac{7}{4}$ $\quad \sin A = \frac{1}{2} \Rightarrow \tan A = \frac{\sqrt{3}}{3}$

③ $\frac{1}{|\cos a|} - \frac{\sin a}{\cos a} = \frac{1}{|\cos a|} + \frac{\sin a}{|\cos a|} \Rightarrow -\frac{\sin a}{\cos a} = \frac{\sin a}{|\cos a|}$

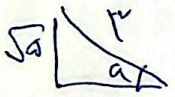
$\Rightarrow \cos a < 0$, $\frac{|\sin a|}{\cos a} = -\tan a = -\frac{\sin a}{\cos a} \Rightarrow \sin a < 0$

$\Rightarrow$ ربع سوم a

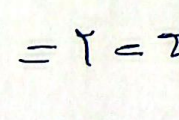
④ $\tan\left(\frac{\pi}{2} - a\right) = \cot a \Rightarrow \tan a = \frac{3}{4}$ $\quad \cos a = -\frac{4}{5}$

⑤ $\frac{3\cos(270-22) - 2\sin(90+21)}{\sin(180+22) - \cos(270+22)} = \frac{-3\sin 22 - 2\sin 22}{-\sin 22 - \sin 22} = \frac{-5}{-2} = \frac{5}{2}$

⑥ $\frac{\cos a + \sin a}{|\tan^2 a - 1|} = \frac{\frac{2}{3} + \frac{\sqrt{5}}{3}}{\left|\frac{5}{4} - 1\right|} = \frac{(2+\sqrt{5})/3}{3\times 1} = \frac{4}{9}(2+\sqrt{5})$



⑦ $\frac{\sin a}{\cos a} = 2 = \tan a$



$\cos a = -\frac{1}{\sqrt{5}} = -\frac{\sqrt{5}}{5}$

⑧ $\frac{-2m}{m^2-1} = \sqrt{2}$ $\quad \sqrt{2}m^2 + 2m - \sqrt{2} = 0$ $\quad \Delta = \frac{-2 \pm \sqrt{4+12}}{2\sqrt{2}} =$

$m = \frac{\sqrt{2}}{2}, -\sqrt{2} \Rightarrow \frac{\sqrt{2}}{2} + \sqrt{2} = \frac{3\sqrt{2}}{2}$

(۹) $-\frac{\pi}{۴} < -x < \frac{\pi}{۴}$ $\quad 0 < \underbrace{\frac{\pi}{۴} - x}_{t} < \frac{\pi}{۲} \Rightarrow$

$\cos(t) > 0 \qquad \frac{۱-m}{۲+m} > 0 \Rightarrow \quad m \in (-۲, ۱)$

---

(۱۰) $(-\sin ۷۵^\circ) \times (-\cos ۲۵^\circ) + (-\sin ۷۵^\circ) \times (\sin ۷۵^\circ)$

$= -\sqrt{۲} \times \frac{\sqrt{۳}}{۲} - \sqrt{۲} \times \frac{\sqrt{۳}}{۲} = ۰$

موفق باشید