یازدهم ریاضی B

صفحه ۲

امیرمحمد فروجانی

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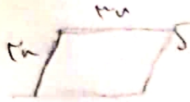

$S = x \cdot \frac{1}{2} \times \sin 150 \times 4x \times 3x \to 3x^2 = 54 \to x^2 = 18 \to x = \sqrt{18}$

$3x + 4\sqrt{18} \times 2 \to 6\sqrt{18} + 8\sqrt{18} \to 14\sqrt{18} \to 42\sqrt{2}$

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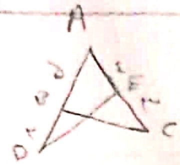

$\frac{1}{2} ab \sin\alpha$

$S_{ADE} \to \frac{1}{2} \sin A \times 7 \times 4 - S_{ABC} \to \frac{1}{2} \sin A \times 5 \times 3 = \frac{175}{100}$

$\sin A (14 - 7/5) = 1/75 \to 3/5 \sin A = 1/75 \to \sin A = \frac{1}{2} \to A = 30°,\ \tan 30 = \frac{\sin 30}{\cos 30} \to \frac{1}{2} \times \frac{2}{\sqrt{3}} \to \frac{\sqrt{3}}{3}$

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$\frac{1}{\sqrt{\cos^2 a}} - \tan a = \frac{1+\sin a}{|\cos a|}$ $\quad \frac{|\sin a|}{\cos a} = \frac{-1}{\cot a}$

$\frac{1}{|\cos a|} - \frac{\sin a}{\cos a} = \frac{1+\sin a}{|\cos a|} \to \cos a < 0$ منفی ، $\frac{|\sin a|}{\cos a} = -\frac{\sin a}{\cos a} \to \sin a < 0$ منفی

ناحیه سوم

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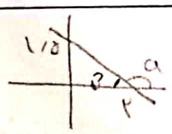
$\tan(\frac{\pi}{2} - a) \to \cot a$



$\cot \beta = \frac{2}{1/5} \to \frac{4}{3} \to \cot a = -\frac{4}{3}$

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$\frac{3\cos(248) - 2\sin(158)}{\sin(202) - \cos(292)} \to \frac{3\cos(\frac{3\pi}{2} - 22) - 2\sin(\pi - 22)}{\sin(\pi + 22) - \cos(\frac{3\pi}{2} + 22)} \to \frac{-3\sin 22 - 2\sin 22}{-\sin 22 - \sin 22} \to \frac{-5\sin 22}{-2\sin 22} \to \frac{5}{2}$

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$\cos a = \frac{2}{3}$ $\quad \frac{\sin(\frac{\pi}{2} + a) - \sin(a - \pi)}{|\tan^2 a - 1|} \Rightarrow \cos a$

$\sin^2\alpha + \cos^2\alpha = 1$, $\frac{4}{9}$

$\sin^2\alpha = \frac{5}{9} \to \sin\alpha = \frac{\sqrt{5}}{3}$

$\to \frac{\cos a + \sin a}{\frac{1}{4}} = 2 - \frac{\sqrt{5}}{3} \times 4 \to \frac{8 - 4\sqrt{5}}{3}$

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$\sin a = 2\cos a$

$4\cos^2 a + \cos^2 a = 1 \to 5\cos^2 a = 1 \to \cos^2 a = \frac{1}{5}$, $\cos a = \pm\frac{1}{\sqrt{5}} \to \pm\frac{\sqrt{5}}{5}$

$-\frac{\sqrt{5}}{5}$

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$2mx + (m^2 - 1)y = 3$

$2mx + (m^2 - 1)y - 3 = 0$

$\tan 60 \to \frac{\sqrt{3}}{2} \times 2 = \sqrt{3}$

شیب $= -\frac{a}{b} \to \frac{-2m}{m^2 - 1} = \sqrt{3} \to -2m = \sqrt{3}m^2 - \sqrt{3} \to \sqrt{3}m^2 + 2m - \sqrt{3} = 0$ $\quad \Delta = 4 - 4(\sqrt{3})(-\sqrt{3})$, $\Delta = 16$

$\frac{-2 \pm \sqrt{16}}{2\sqrt{3}} \to \frac{2}{2\sqrt{3}} \to \frac{1}{\sqrt{3}}$ و $\frac{-6}{2\sqrt{3}} \to -\frac{3}{\sqrt{3}}$ $\quad \left| -\frac{3}{\sqrt{3}} - \frac{1}{\sqrt{3}} \right| \to \frac{4}{\sqrt{3}}$

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$\tan(\frac{\pi}{4} - x) \rightarrow \tan x \quad -\tan x$

$\tan(\frac{\pi}{4} - x) = \frac{1-m}{2+m}$ $\rightarrow \tan = 0$ $\quad -\frac{\pi}{4} < x < \frac{\pi}{2}$

$\frac{1-m}{2+m} > 0 \rightarrow$ $\frac{-2 \quad 1}{- \quad + \quad -}$ $\rightarrow (-2, 1)$

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$\tan(300)\cos(210) + \tan(480)\sin(840)$

$\tan 120 \quad \sin 120$

$480 - 360 = 120$ $\quad 840 - 720 = 120$

$-\sqrt{3} \times -\frac{\sqrt{3}}{2} + -\sqrt{3} \times \frac{\sqrt{3}}{2}$

$-\sqrt{3}(-\frac{\sqrt{3}}{2} + \frac{\sqrt{3}}{2}) = 0$