نام و نام خانوادگی ....عماد بابری..... پاسخنامه تشریحی تکلیف شماره ۱۲ .... کلاس ....دوازدهم ریاضی A....

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$$\frac{a\sin\frac{4\pi}{3}+b\cos\frac{7\pi}{6}}{a\sin\frac{11\pi}{6}+b\cos\frac{\pi}{3}} \to \frac{-\frac{\sqrt{3}}{2}a-\frac{\sqrt{3}}{2}b}{-\frac{1}{2}a+\frac{1}{2}b}=\frac{\frac{1}{4}}{-\frac{\sqrt{3}}{4}}=-\frac{\sqrt{3}}{3}$$

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

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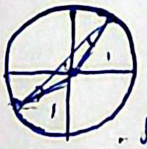
$P(\frac{1}{2}, y) \Rightarrow P(\frac{1}{2}, \frac{\sqrt{3}}{2})$ ← زاویه ۶۰ ← $60-210=-150$

$P'(-\frac{\sqrt{3}}{2}, -\frac{1}{2})$

$y^2=1^2-(\frac{1}{2})^2=1-\frac{1}{4}=\frac{3}{4}$

$\Rightarrow y=\frac{\sqrt{3}}{2}$



$\cos 15^\circ=\frac{\sqrt{6}+\sqrt{2}}{4}\times 1=\frac{\sqrt{6}+\sqrt{2}}{4}$

جواب: $\sqrt{\frac{\sqrt{6}+\sqrt{2}}{2}+2}$ ، $\frac{\sqrt{6}+\sqrt{2}}{4}\times 2+2=\frac{\sqrt{6}+\sqrt{2}}{2}+2$

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می‌دانیم اگر عقربه ساعت شمار ۱ درجه بچرخد عقربه دقیقه شمار ۱۲ درجه می‌چرخد

یعنی عقربه دقیقه شمار ۲۴۰ می‌چرخد $\frac{\pi}{9} \to 20^\circ \Rightarrow 20\times 12=240$

← یعنی $\frac{2}{3}$ ساعت می‌چرخد یعنی ساعت ۲:۴۰ در حال دقیقه است

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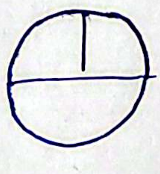

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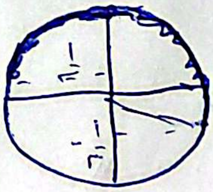

$-\frac{\pi}{6} < x \le \frac{5\pi}{6} \Rightarrow -\frac{1}{2} < \sin x \le 1$

$-\frac{1}{2} < \frac{m-3}{5} \le 1 \Rightarrow -\frac{5}{2} < m-3 \le 5 \Rightarrow \frac{1}{2} < m \le 8$

$m=\{1, 2, \dots, 8\}$ ۸ عدد صحیح

۶

$$\frac{\sin(100)+4\cos(200)}{\cos(140)+2\sin 190} = ?$$

$$\sin 10 = \frac{1}{4}\cos 10$$

$$\Rightarrow 4\sin 10 = \cos 10$$

$$\frac{\cos 10 - 4\sin 10}{-\sin 10 - 2\sin 10} = \frac{4\sin 10 - 4\sin 10}{-2\sin 10} = 0$$

$$4 - h = -9 + h = 13$$

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$$\frac{1-\cos\alpha}{1+\cos\alpha} = 2 \rightarrow 1-\cos\alpha = 2+2\cos\alpha \Rightarrow 2\cos\alpha = -1 \Rightarrow \cos\alpha = -\frac{1}{2}$$

$$\sin\alpha = +\frac{\sqrt{3}}{2} \rightarrow \tan\alpha = -\sqrt{3}$$

$$\cot\alpha = -\frac{\sqrt{3}}{3}$$

$$-\frac{\sqrt{3}}{3} = -\frac{1}{\sqrt{3}}$$

$$\text{ج.ع} \quad \frac{\tan\left(\frac{\pi}{2}-\alpha\right) - \cot(\pi-\alpha)}{\cot\left(\frac{3\pi}{2}-\alpha\right) + 2\tan(2\pi-\alpha)} = \frac{\cot\alpha + \cot\alpha}{\tan\alpha - 2\tan\alpha} = \frac{2\cot\alpha}{-\tan\alpha} = -2$$

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$$2a = 2'a' \Rightarrow 2 \times 18 = 2' \times \frac{9 \times 18}{10} = 12r'$$

$$r' = R_B \quad r = R_A$$

$$\Rightarrow 2r = 2r' \rightarrow \frac{4R_A^2}{4R_B^2} = \frac{R_A^2}{R_B^2} = \frac{\frac{4}{9}R_B^2}{R_B^2} = \frac{4}{9}$$

$$\Rightarrow r = \frac{2}{3}r' \Rightarrow R_A = \frac{2}{3}R_B$$

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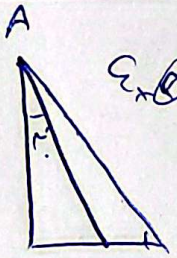


$$\sin\frac{\pi}{4} \times AD = BD \quad (1)$$

$$\frac{1}{2}AD = 1 \Rightarrow AD = 2$$

$$AB^2 = 2^2 - 1^2 \Rightarrow AB = \sqrt{3}$$

$$\Rightarrow D_C = (1) \quad \left(\frac{\varepsilon\sqrt{2}}{V}\right)$$

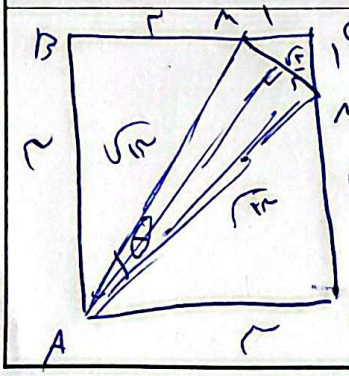
$$\sin^2 C = 2\sin C\cos C =$$

$$2 \times \frac{\sqrt{2}}{2} \times \frac{2}{\sqrt{2}} \times \frac{2}{\sqrt{2}} = \frac{\varepsilon\sqrt{2}}{V}$$

$$S_{ABC} = \sqrt{3} \Rightarrow \frac{AB \times BC}{2} = \frac{\sqrt{3} \times BC}{2} = \sqrt{3} \Rightarrow BC = 2$$

$$AC = \sqrt{V}$$

۱۰



$$MN = \sqrt{2}$$

$$AN = \sqrt{2^2+2^2} = \sqrt{12}$$

$$AM = \sqrt{2^2+2^2} = \sqrt{10}$$

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

$$\sin\theta = 2 \times \frac{\sqrt{2}}{\sqrt{12}} \times \frac{\sqrt{10}}{\sqrt{12}} = \frac{\sqrt{10}}{6} = \frac{\sqrt{10}}{6}$$