

نام و نام خانوادگی دلائل امر حیرت انگیز پاسخنامه تشریحی تکلیف شماره ۱۲ کلاس دوازدهم دختر B

$$\frac{a \sin \frac{\pi}{3} + b \cos \frac{\pi}{6}}{a \sin \frac{11\pi}{6} + b \cos \frac{\pi}{6}} = \tan \frac{2\pi}{3}$$

$$\frac{\sqrt{3}(a+b)}{a-b} = -\sqrt{3} \rightarrow 3a+3b = -a+b$$

$$4a-2b \rightarrow \frac{b}{a} = -\frac{2a}{a} = -2$$

۱/۵

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

$P(\frac{1}{2}, y) \xrightarrow{\text{در مطلق جهت}} P'$ opp' کیست؟

$\frac{\pi}{3}$ زاویه

$bis = R+R+PP'$

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

۲

در هر دقیقه عقربه ساعت = ۱° و دقیقه = ۶° و ۱۲ برابر ساعت = ۷۲°

ساعت ۲:۴۰'

$$\frac{\pi}{2} \xrightarrow[\times 12]{\text{دقیقه}} \frac{12\pi}{9} = 2\pi = 360^\circ$$

$$\frac{2\pi}{6} = \frac{\pi}{3} = 60^\circ$$

۳

$$\alpha = |\omega/\omega m - \pi_0 h| \rightarrow \omega/\omega m_1 - \pi_0 \times 2 = \pi_0 \rightarrow \frac{\omega_0}{\omega/\omega} = m_1 \rightarrow \pi_0$$

$$\omega/\omega m_2 - \pi_0 \times 2 = -\pi_0$$

۵ دقیقه

۴

$$-\frac{\pi}{6} < \alpha \leq \frac{2\pi}{3} \rightarrow -\frac{1}{2} < \sin \alpha \leq 1 \rightarrow -\frac{1}{2} < \frac{m-2}{2} \leq 1$$

$$\times 2 \rightarrow -1 < m-2 \leq 2 \xrightarrow{+2} 1 < m \leq 4$$

۸ عدد صحیح

۵

$$\frac{\sin(10^\circ) + K \cos(120^\circ)}{\cos(140^\circ) + 2 \sin(140^\circ)} = 2$$

$$\frac{\cos(120^\circ) + K(-\sin(120^\circ))}{-\cos(120^\circ) - 2 \sin(120^\circ)} = 2 \xrightarrow{\div \cos(120^\circ)} \frac{1 - K \tan(120^\circ)}{-1 - 2 \tan(120^\circ)} = \frac{1 - 0.1732K}{-1.1732} = 2$$

$$\rightarrow K = 22$$

$$\frac{1 - \cos n}{1 + \cos n} = r \quad \frac{\tan(\frac{r}{r} - n) - \cot(r - n)}{\cot(\frac{r}{r} - n) + r \tan(r - n)}$$

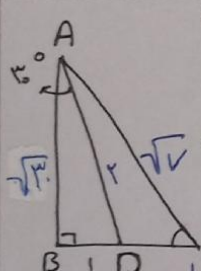
$$\frac{\cot n + \cot n}{\tan n - r \tan n} = \frac{r \cot n}{-\tan n} = -r \times \frac{\frac{\cos n}{\sin n}}{\frac{\sin n}{\cos n}} = -r \times \frac{\cos n}{\sin^2 n} = -r \times \frac{1}{\frac{n}{9}} = -\frac{1}{2}$$

$$\rightarrow 1 - \cos n = r + r \cos n \rightarrow r \cos n = -1 \rightarrow \cos n = -\frac{1}{r} \quad \sin n = \sqrt{1 - \frac{1}{r^2}} = \frac{\sqrt{r^2 - 1}}{r}$$

$$\frac{r}{10} \times \frac{10 \times}{\cancel{r} \times 10} = \frac{l}{r \times R_A} \quad \frac{9}{10} \times \frac{9 \times}{\cancel{r} \times 10} = \frac{l}{r \times R_B} \quad * \quad \frac{4 \pi R_A}{1} = \frac{4 \pi R_B}{r \times} \rightarrow \frac{R_A}{R_B} = \frac{r}{1}$$

$$l = \frac{4 \pi R_A}{10} \quad l = \frac{1 \pi R_B}{10}$$

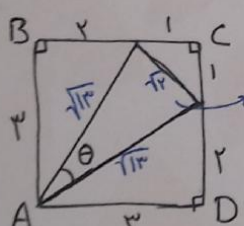
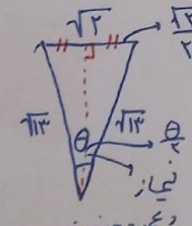
$$\frac{S_A}{S_B} = \left(\frac{R_A}{R_B}\right)^2 \rightarrow \left(\frac{r}{1}\right)^2 = \frac{9}{2}$$



$S_{ABC} = \sqrt{1}$ $\sin \hat{C} = \frac{1}{\sqrt{5}}$ $\cos \hat{C} = \frac{2}{\sqrt{5}}$ $\sin 63.4^\circ = \frac{1}{\sqrt{5}}$

$$S = \frac{1}{2} \times BC \times AB = \frac{1}{2} \times 1 \times 2 = 1$$

$$\Delta ABC \Rightarrow (\sqrt{5})^2 = (2)^2 + (1)^2 \Rightarrow AC = \sqrt{5}$$

نقطة منتصف (منتصف القطر)

$$\sin \frac{\theta}{2} = \frac{\sqrt{2}}{2} = \frac{1}{\sqrt{2}} = \frac{1}{\sqrt{2}}$$

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

$$1 = \frac{1}{2} + \left[\frac{2}{2}\right] \rightarrow \cos \frac{\theta}{2} = \frac{2}{2\sqrt{2}} = \frac{1}{\sqrt{2}}$$

$$\sin \theta = 2 \sin \frac{\theta}{2} \cos \frac{\theta}{2} = 2 \times \frac{1}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \frac{2}{2} = 1$$