

۲۰

صبا دوازدهم کالیف شماره ۱۲ دوازدهم دختر B

$$\frac{-\frac{\sqrt{3}}{2}a - \frac{\sqrt{3}}{2}b}{-\frac{1}{2}a + \frac{1}{2}b} = -\frac{\sqrt{3}}{3} \quad \frac{-\frac{\sqrt{3}}{2}(a+b)}{-\frac{1}{2}(a-b)} = -\frac{\sqrt{3}}{3} \quad -\frac{1}{2}a + \frac{1}{2}b = a+b \quad \frac{3}{2}a = -\frac{2}{3}b \quad b = -\frac{9}{4}a \rightarrow \frac{b}{a} = -\frac{9}{4}$$

$$P = 90^\circ \rightarrow P' = 180^\circ \quad PP' = OP' + OP' - 2OP \cdot OP' \cdot \frac{\cos \alpha}{\cos 120^\circ} \quad PP' = 1 + 1 - 2 \times (-\frac{\sqrt{3}}{2}) = 2 + \sqrt{3}$$

$$2P_{opp} = 1 + 1 + \sqrt{2 + \sqrt{3}}$$

$$\frac{\pi}{9} = 20^\circ$$

اندازه ای که عقرب ساعت شمار می رود جلو نصف دقیقه است پس ۲:۴۰ است.

$$\alpha = \left| \frac{11M}{P} - 90^\circ H \right| \quad \frac{11M}{P} - 90^\circ = \pm 20^\circ \quad \begin{cases} M_1 = 12, V \\ M_2 = 20 \end{cases} \rightarrow \text{جواب}$$

$$-\frac{1}{P} < \sin \alpha \leq 1 \quad -\frac{1}{P} < \frac{m-3}{a} \leq 1 \quad -\frac{a}{P} < m-3 \leq a \quad \frac{1}{P} < m \leq a$$

$$\frac{\cos 120^\circ - K \sin 120^\circ}{-\cos 120^\circ - P \sin 120^\circ} \cdot \frac{\sin 120^\circ = 1}{\cos 120^\circ = -\frac{1}{2}} \rightarrow \frac{F-K}{-F-P} = 3 \quad F-K = -12 \quad K = 22$$

$$P + P \cos \alpha = 1 - \cos \alpha \quad P \cos \alpha = -1 \quad \cos \alpha = -\frac{1}{P} \quad \frac{3}{\sqrt{3}} \rightarrow \sin \alpha = \frac{P\sqrt{3}}{P}$$

$$\frac{\cot \alpha + \cot \alpha}{\tan \alpha - P \tan \alpha} = \frac{P \cot \alpha}{-\tan \alpha} = \frac{-\frac{P\sqrt{3}}{F}}{\frac{F}{P\sqrt{3}}} = -\frac{1}{F}$$

$$108^\circ = \frac{P\pi}{a} \quad \frac{P\pi}{a} \times R_A = \frac{9\pi}{10} \times R_B \quad \frac{R_A}{R_B} = \frac{P}{9} \quad \frac{S_A}{S_B} = \frac{\frac{P}{9} R_A^2}{\frac{P}{9} R_B^2} = \frac{9}{P}$$

$$AB = \sqrt{3} \quad S = \frac{AB \times BC}{2} = \frac{\sqrt{3} \times BC}{2} = \sqrt{3} \quad BC = 2 \quad AC = \sqrt{P^2 + \sqrt{3}^2} = \sqrt{7}$$

$$\sin C = \frac{AB}{AC} = \frac{\sqrt{3}}{\sqrt{7}} \quad \cos C = \frac{BC}{AC} = \frac{2}{\sqrt{7}} \quad \sin 2C = 2 \sin C \cdot \cos C = 2 \times \frac{\sqrt{3}}{\sqrt{7}} \times \frac{2}{\sqrt{7}} = \frac{4\sqrt{3}}{7}$$

$$AM = AN = \sqrt{13} \quad MN = \sqrt{7} \quad MN^2 = AM^2 + AN^2 - 2AM \cdot AN \cdot \cos \theta$$

$$7 = 13 + 13 - 2 \times 13 \times \cos \theta \quad \cos \theta = \frac{13}{13} \rightarrow \sin \theta = \frac{a}{13}$$