



$$-\frac{1}{r} < \sin u \leq 1$$

$$-\frac{1}{r} < \frac{m-c}{a} \leq 1$$

$$\Rightarrow \frac{1}{r} < m \leq 1$$

✓ $m \neq 1$

$$\tan 10^\circ = \frac{r_0}{1.0} = \frac{1}{\varepsilon}$$

$$\sin(10^\circ + 10^\circ) + K \cos(10^\circ - 10^\circ)$$

$$\cos(10^\circ - 10^\circ) + r \sin(10^\circ + 10^\circ)$$

$$= \frac{\cos(10^\circ) - K \sin(10^\circ)}{-\cos(10^\circ) + r \sin(10^\circ)} = \frac{\varepsilon - K}{-\varepsilon - r} = c$$

$$✓ \Rightarrow K = 2r$$

$$r + r \cos u = 1 - \cos u$$

$$= r \cos u = -\frac{1}{c}$$

$$1 + \tan^2 u = 9 \Rightarrow \tan u = 3\sqrt{1/2} \Rightarrow \cot u = -\frac{1}{\sqrt{2}}$$

$$\frac{\cot u + \cot u}{\tan u - r \tan u} = \frac{-r \cot u}{\tan u} = -1 \cot u$$

$$\tan u - r \tan u$$

$$✓ = -\frac{1}{\varepsilon}$$

$$\frac{1.0}{1.0} = \frac{R}{\pi} \Rightarrow R = \frac{r\sqrt{\pi}}{20}$$

$$\frac{r\sqrt{\pi}}{20} \times r_A = \frac{q\pi}{10} \times r_B \Rightarrow \frac{r_A}{r_B} = \frac{c}{r}$$

$$✓ \Rightarrow \frac{S_A}{S_B} = \frac{q}{\varepsilon}$$

نکته: $\frac{1}{r}$

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$$\frac{\sqrt{2}}{r}(a+b)$$

$$\frac{-\frac{\sqrt{2}}{r}a - \frac{\sqrt{2}}{r}b}{-\frac{1}{r}a + \frac{1}{r}b} = \frac{\sqrt{2}}{c}$$

$$\frac{1}{y}(a+b)$$

$$r_a + r_b = -a + b$$

$$\varepsilon a = -r_b \quad \frac{b}{a} = -r$$

$$OP = OQ = \text{مسافت از مرکز} = 1$$

$$OP' = \sqrt{1^2 + 1^2 - (1)(1)\frac{1}{\sqrt{2}}(\cos 10^\circ)} = \sqrt{2 + \sqrt{2}}$$

$$\frac{1}{\sqrt{2}} = 1 + 1 + \sqrt{2 + \sqrt{2}}$$

$$P = 4$$

$$y_0 - r_1 = -10$$

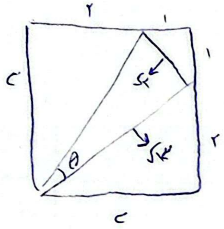
$$= r_1$$

$$\frac{1}{\sqrt{2}} = \frac{1}{r} \times 1 \times \sin 10^\circ = \frac{1}{\varepsilon}$$

$$\frac{\frac{1}{\sqrt{2}}}{\frac{1}{\sqrt{2}}} = \frac{1}{1.0}$$

$$\Rightarrow D = r_0 \quad \frac{r_0}{r_0} = \frac{r_0}{r_0}$$

$$r_0 + (r_0 - \frac{r_0}{\sqrt{2}}) = \frac{110}{\varepsilon}$$



$$r = 1c + 1c - 2 \times c \times \cos \theta$$

$$\Rightarrow \cos \theta = \frac{12}{14} = \frac{12}{14}$$

$$\sin \theta = \sqrt{1 - \frac{144}{196}} = \frac{5}{14}$$

نکته

AB = 5

$$S_{\triangle ABC} = \frac{1}{2} \times 1 \times \sqrt{5}$$

$$= \frac{\sqrt{5}}{2} = \frac{10 \times \sqrt{5}}{2}$$

$$\Rightarrow 10 \times 2 = 1$$

سوال ۳

دسته ۱ است یعنی عقرب ساعت ۱۲ و دقیقه ۱۲ روی عدد ۱۲ است
دقت دقیقه ۱۲ روی ۱۲ مرخص یعنی $\frac{12}{60} \times 360 = 72^\circ$ چون جواب آمدن ساعت ۱۲ نصف دقیقه
ساعت ۱۲ یعنی دقیقه ۴۰ چون است ۲:۴۰!

سوال ۴

$$a = |\omega, \omega_m - 3. h|$$

$$|\omega, \omega_m - 9.0| = 2. \Rightarrow \omega, \omega_m = 11. \rightarrow m = 2. \checkmark$$

$$\hookrightarrow \omega, \omega_m = 11. \rightarrow m = 14.72 \text{ دنگال}$$

$$\Rightarrow \cot C = \frac{r}{\sqrt{5}}$$

$$1 + \cot^2 C = \frac{1}{\sin^2 C}$$

$$\Rightarrow \sin C = \frac{\sqrt{5}}{\sqrt{5}}$$

$$\Rightarrow \sec C = \frac{r}{\sqrt{5}}$$

$$\sin^2 C = r \times \frac{\sqrt{5}}{\sqrt{5}} \times \frac{r}{\sqrt{5}}$$

$$= \frac{r \sqrt{5}}{\sqrt{5}}$$