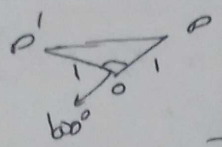
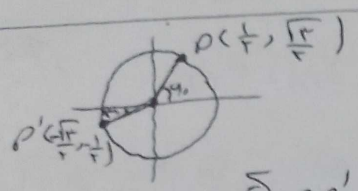


$$\frac{a(-\frac{r}{r}) + b(-\frac{r}{r})}{a(-\frac{1}{r}) + b(\frac{1}{r})} = \frac{-\frac{r}{r}}{\frac{1}{r}} \Rightarrow \frac{a+b}{b-a} = -\frac{r}{r} \Rightarrow \frac{a+b}{b-a} = -1 \quad (1)$$

$$\frac{a+b}{b-a} = \frac{1}{r} \Rightarrow ra + rb = b - a \quad \text{and} \quad ra - rb = b - a \Rightarrow ra = b$$

$$\frac{b}{a} = \frac{-ra}{a} = -r \quad \checkmark$$



$$\Delta_{OP'P} = \frac{1}{2} r \cdot r \cdot \sin \alpha = \frac{1}{2} r^2 \sin \alpha$$

مساحت مثلث OP'P

$$\Delta_{OP'P} = \frac{1}{2} OP \cdot OP' \cdot \sin \alpha$$

$$OP = OP' = r = 1$$

$$r = \sqrt{1 + 1 - 2(1)(1)\cos \alpha} = \sqrt{2 - 2\cos \alpha}$$

$$\frac{\pi}{a} = \frac{D}{180} \Rightarrow D = 70^\circ$$

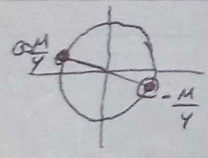
$$\frac{\frac{\pi}{a}}{\frac{\pi}{b}} = \frac{n}{40} \Rightarrow \frac{r}{r} = \frac{n}{40} \Rightarrow n = 20^\circ$$

مساحت مثلث = $|r_0 H - \omega_1 \omega_2 m|$

$$r_0 = |r_0 a r - \omega_1 \omega_2 m|$$

$$\begin{cases} 90 - \omega_1 \omega_2 m = r_0 \Rightarrow m = \sqrt{r_0 a r} \\ 90 - \omega_1 \omega_2 m = -r_0 \Rightarrow m = 110 a \frac{r}{11} = r_0 \end{cases}$$

مساحت مثلث OP'P



$$\min = -\frac{1}{r}$$

$$\frac{1}{r} < \sin m \leq 1 \Rightarrow \frac{1}{r} < \frac{m-r}{\omega} \leq 1 \Rightarrow \frac{1}{r} < m \leq 1 \quad \checkmark$$

$$\frac{\sin 10^\circ}{\cos 10^\circ} = \frac{r_0}{100} \cdot \frac{1}{\varepsilon} \Rightarrow \sin 10^\circ = 10 \cos 10^\circ \cdot \varepsilon$$

$$\frac{\mu \cos 10^\circ + (-k) \sin 10^\circ}{-\cos 10^\circ - r \sin 10^\circ} \Rightarrow \frac{\varepsilon m - k m}{-\varepsilon m - r m} = \frac{\mu(\varepsilon - k)}{-\varepsilon m} = +r \Rightarrow \varepsilon - k = -1 \quad \checkmark$$

$$\frac{1 - \cos m}{1 + \cos m} = r \Rightarrow r + r \cos m = 1 - \cos m \Rightarrow r \cos m = -1 \quad \cos m = -\frac{1}{r}$$

$$\begin{aligned} \tan(\frac{\pi}{2} - m) &= \cot m & \cot(\frac{\pi}{2} - m) &= \tan m \\ \cot(\pi - m) &= -\cot m & r \tan(\pi - m) &= -r \tan m \end{aligned} \quad \checkmark$$

