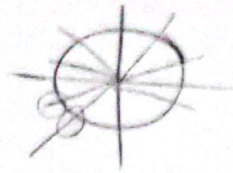


1) $\frac{a \sin \frac{\pi}{4} + b \cos \frac{\pi}{4}}{a \sin \frac{11\pi}{4} + b \cos \frac{11\pi}{4}} = \tan \frac{\theta}{2} \rightarrow \frac{b}{a} = ?$

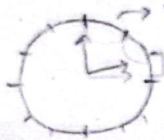
$\frac{-\frac{\sqrt{r}}{r}a - \frac{\sqrt{r}}{r}b}{-\frac{1}{r}a + \frac{1}{r}b} = \frac{\frac{\sqrt{r}}{r}(a+b)}{\frac{1}{r}(b-a)} = \frac{\sqrt{r}}{r} \rightarrow r(a+b) = b-a$
 $ra + rb = b - a$
 $ra = -rb \rightarrow \frac{b}{a} = \frac{r}{-r}$
 $= \boxed{-1}$



2) $P(\frac{1}{r}, y) \rightarrow$
 $\rightarrow -r \cdot 1 = P' \rightarrow S_{opp} = ?$
 $PP' = \sqrt{(\frac{\sqrt{r}}{r} - (-\frac{1}{r}))^2 + (\frac{1}{r} - (-\frac{\sqrt{r}}{r}))^2} = \sqrt{r + \sqrt{r}}$

$\frac{1}{\sin 10^\circ} = \frac{m}{\sin 10^\circ} \Rightarrow m = \frac{1}{\sin 10^\circ} \times \frac{1}{\sin 10^\circ} \rightarrow a = \frac{\sqrt{r}}{(\sqrt{r}-1) \times \sqrt{r}} = \frac{\sqrt{r}}{\sqrt{r}-1}$
 $P = \frac{r + \sqrt{r}}{1 + \sqrt{r}}$
 $\text{مساحت} = 1 + 1 + \sqrt{r + \sqrt{r}} = \boxed{r + \sqrt{r + \sqrt{r}}}$

3) $CL \perp r \dots \rightarrow r + \frac{\pi}{q} = ?$



$\frac{1}{q} \cdot \frac{r}{m} \rightarrow$

$r \cdot x \in \mathbb{R} \rightarrow r \cdot x \in \mathbb{R} \rightarrow$

$r = r_0$

4) $r: \dots \rightarrow$ $r: \dots$

$\alpha = |\frac{11}{r}m - \pi| \Rightarrow \frac{0}{10m} - 90 \in r \dots \frac{11}{r}m \in 11$
 $\frac{0}{10m} - 90 \in -r \dots \frac{11}{r}m \in V_0$
 $\rightarrow \boxed{r_0 \text{ min}}$

5) $\sin x = \frac{m-r}{d} \rightarrow -\frac{r}{d} < m < \frac{d-r}{d} \rightarrow m \in ?$



$\rightarrow \frac{-1}{r} \frac{m-r}{d} < 1 \rightarrow -\frac{d}{r} \frac{m-r}{d} < 1 \rightarrow \frac{1}{r} < m < 1$

