

$$1 \leq x^2 + y^2 \leq 4$$

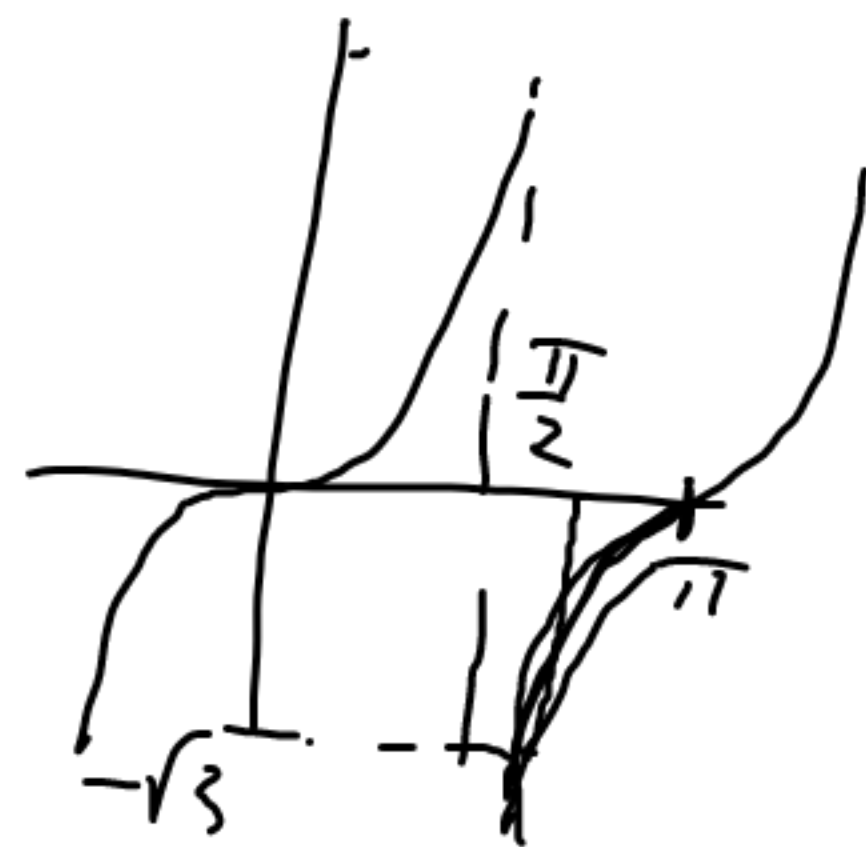
$$1 \leq r^2 \leq 4$$

$$r \in [1, 2]$$

$$y \geq \sqrt{3}|x|$$

$$r \sin \varphi \geq \sqrt{3} |r \cos \varphi| \quad | : r$$

$$\sin \varphi \geq \sqrt{3} |\cos \varphi| \geq 0$$



W zależności $\sin \varphi \geq 0$

$$\varphi \in [0, \pi]$$

$$1) \varphi \in [0, \frac{\pi}{2}]$$

$$\rightarrow \sin \varphi \geq \sqrt{3} \cos \varphi$$

$$\begin{cases} \operatorname{tg} \varphi \geq \sqrt{3} \\ \varphi \in [\frac{\pi}{3}, \frac{\pi}{2}] \end{cases}$$

$$2) \varphi \in (\frac{\pi}{2}, \pi]$$

$$\sin \varphi \geq \sqrt{3} (-\cos \varphi) \quad | : \cos \varphi, \cos \varphi < 0$$

$$\operatorname{tg} \varphi \leq -\sqrt{3} \quad \varphi \in (\frac{\pi}{2}, \frac{2}{3}\pi]$$

