

$$\begin{aligned} \operatorname{tg}x + \operatorname{tgy} &= 2\sqrt{3} \\ \operatorname{tg}x \cdot \operatorname{tgy} &= 3 \end{aligned}$$

$$\begin{aligned} a+b &= 2\sqrt{3} \\ ab &= 3 \end{aligned}$$

$$a = 2\sqrt{3} - b$$

$$\begin{aligned} (2\sqrt{3} - b)b &= 3 \\ 2\sqrt{3}b - b^2 &= 3 \\ b^2 - 2\sqrt{3}b + 3 &= 0 \\ D &= 12 - 12 = 0 \\ b &= 2\sqrt{3}/2 = \sqrt{3} \end{aligned}$$

$$\begin{aligned} \operatorname{tg}x &= \sqrt{3} \\ \operatorname{tgy} &= \sqrt{3} \\ x &= \pi/3 + \pi k \\ y &= \pi/3 + \pi n \\ \text{Ответ: } &(\pi/3 + \pi k; \pi/3 + \pi n) \end{aligned}$$