$$(\log_5 x)^2 - \log_5 x^2 = -1$$

$$(\log_5 x)^2 - 2\log_5 x + 1 = 0$$

$$\boxed{\log_5 x = t}$$

$$t^2 - 2t + 1 = 0$$

$$t = \frac{2 \pm \sqrt{(-2)^2 - 4 \cdot 1 \cdot 1}}{2 \cdot 1} = \begin{matrix} \nearrow 1 \\ \searrow 1 \end{matrix}$$

$$\log_5 x = 1$$

$$\boxed{x = 5}$$