

$$\left(\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}}\right)^2 = (r)^2 \rightarrow \frac{x}{y} + \frac{y}{x} + 2 = r^2 \rightarrow \frac{x}{y} + \frac{y}{x} = r^2 - 2$$

$$\frac{y^2 + x^2}{xy} = r^2 \rightarrow x^2 + y^2 = r^2 xy \rightarrow x^2 + y^2 - r^2 xy = (x - y)^2 = 0$$

$$\left(\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}}\right)^2 = (r)^2 \rightarrow \frac{x}{y} + \frac{y}{x} + r^2 = r^2 \rightarrow \frac{x}{y} + \frac{y}{x} = r^2 \quad \text{Cuma } x = y$$

$$\frac{y^2 + x^2}{x \cdot y} = r^2 \rightarrow x^2 + y^2 = r^2 x y \rightarrow x^2 + y^2 - r^2 x y = (x - y)^2 = 0$$