

$$= \underbrace{\sin^2 x \cos^2 y} - \underbrace{\cos^2 x \sin^2 y}$$

$$= (1 - \cos^2 x) \cos^2 y - \cos^2 x (1 - \cos^2 y)$$

$$= \cos^2 y - \cancel{\cos^2 x / \cos^2 y} - \cos^2 x + \cancel{\cos^2 x / \cos^2 y}$$

$$= \cos^2 y - \cos^2 x //$$

$$16) \operatorname{tg}(x+y) \operatorname{tg}(x-y) = \frac{\sin^2 x - \sin^2 y}{\cos^2 x - \sin^2 y}$$

$$\left\{ \operatorname{tg}(x+y) = \frac{\operatorname{tg} x + \operatorname{tg} y}{1 - \operatorname{tg} x \operatorname{tg} y} \right.$$

$$\left. \operatorname{tg}(x-y) = \frac{\operatorname{tg} x - \operatorname{tg} y}{1 + \operatorname{tg} x \operatorname{tg} y} \right.$$

$$\operatorname{tg}(x+y) \operatorname{tg}(x-y) = \frac{\operatorname{tg} x + \operatorname{tg} y}{1 - \operatorname{tg} x \operatorname{tg} y} \cdot \frac{\operatorname{tg} x - \operatorname{tg} y}{1 + \operatorname{tg} x \operatorname{tg} y}$$

$$= \frac{\operatorname{tg}^2 x - \operatorname{tg}^2 y}{1 - \operatorname{tg}^2 x \operatorname{tg}^2 y}$$

$$= \frac{\frac{\sin^2 x}{\cos^2 x} - \frac{\sin^2 y}{\cos^2 y}}{1 - \frac{\sin^2 x}{\cos^2 x} \frac{\sin^2 y}{\cos^2 y}} = \frac{\frac{\sin^2 x \cos^2 y - \sin^2 y \cos^2 x}{\cos^2 x \cos^2 y}}{\frac{\cos^2 x \cos^2 y - \sin^2 x \sin^2 y}{\cos^2 x \cos^2 y}}$$

$$= \frac{\sin^2 x \cos^2 y - \sin^2 y \cos^2 x}{\cos^2 x \cos^2 y - \sin^2 x \sin^2 y} =$$