$$g(x) \approx g(x_0) + \frac{dq}{dx} |_{x_0} (x - x_0)$$

$$\Rightarrow x$$

$$\sin \theta \approx 0 + \theta = \theta$$

$$g(x,y) = g(x_0,y_0) + \frac{\partial g}{\partial x} \left( x - x_0 \right) + \frac{\partial g}{\partial y} \left( x_0 \right)$$

$$g(x,y) = g(x_0, y_0) + \frac{\partial g}{\partial x} \Big|_{x_0, y_0} (x - x_0) + \frac{\partial g}{\partial y} \Big|_{x_0}$$

$$\chi(\dot{\phi})^{2} \approx \chi_{0} \gamma_{0} + \frac{\partial \dot{\phi}}{\partial x_{0}} \chi_{0} \gamma_{0} + \frac{\partial \dot{\phi}}{\partial y_{0}} \chi_{0} \gamma_{0} + \frac{\partial$$

$$g^{(x,y)} = g(x_0, y_0) + \frac{\partial g}{\partial x} \Big|_{x_0, y_0} (x_0 + x_0) + \frac{\partial g}{\partial y} (y_0 - y_0)$$

$$\times y^2 \approx x_0 y^2 + (y^2) / y_0$$