

$$K = \frac{1-y}{1-y-x}$$

differentiate by y

$$\frac{dK}{dy} = \frac{(-1) \cdot (1-y-x) - (1-y) \cdot (-1)}{(1-y-x)^2}$$

$$\frac{dK}{dy} = \frac{(y+x-1) - (y-1)}{1+y^2+x^2+2xy-2x-2y}$$

$$\frac{dK}{dy} = \frac{\cancel{y} + x - \cancel{1} - \cancel{y} + 1}{1+y^2+x^2+2xy-2x-2y} = \frac{x}{-1}$$

$$\frac{dK}{dy} = \frac{x}{x \left( \frac{1}{x} + \frac{y^2}{x} + x + 2y - 2 - \frac{2y}{x} \right)}$$

differentiate ① by x

$$\frac{dK}{dx} = \frac{0 \cdot (1-y-x) - (1-y) \cdot (-1)}{(1-y-x)^2} = \frac{1-y}{1+y^2+x^2+2xy-2x-2y}$$

$$\frac{dK}{dx} = \frac{1-y}{1+y^2+x^2+2xy-2x-2y}$$