

$$y = \frac{kwd^4}{t^3} \quad ; \quad y = kwd^4t^{-3}$$

$$\delta y = \frac{\partial y}{\partial k} \cdot \delta k + \frac{\partial y}{\partial w} \cdot \delta w + \frac{\partial y}{\partial d} \cdot \delta d + \frac{\partial y}{\partial t} \cdot \delta t$$

$$\frac{\partial y}{\partial k} = \frac{wd^4}{t^3}, \quad \frac{\partial y}{\partial w} = \frac{kd^4}{t^3}, \quad \frac{\partial y}{\partial d} = \frac{4d^3kw}{t^3}, \quad \frac{\partial y}{\partial t} = \frac{-3kwd^4}{t^4}$$

$$\frac{\partial y}{\partial t} = \frac{-3kwd^4}{t^4}$$

$$\delta w = \frac{3}{100} \text{ of } w = \frac{3w}{100}$$

$$\delta d = \frac{5}{2} \cdot 100 \text{ of } d = \frac{5}{2} \times \frac{1}{100} = \frac{5}{200} = \frac{5d}{200}$$

$$\delta t = \frac{+1}{100} \text{ of } t = \frac{4t}{100}$$

$$\delta y = 0 + \frac{kd^4}{t^3} \times \frac{3w}{100} + \frac{4d^3kw}{t^3} \times \frac{5d}{200} + \frac{-3kwd^4}{t^4} \times \frac{4t}{100}$$

$$\delta y = \frac{kd^4w}{t^3} \times \left(\frac{3}{100}\right) + \frac{d^4kw}{t^3} \times \left(\frac{20}{200}\right) - \frac{kwd^4}{t^3} \times \left(\frac{12}{100}\right)$$

$$\delta y = \frac{kwd^4}{t^3} \left(\frac{3}{100} + \frac{20}{200} - \frac{12}{100} \right)$$

$$\delta y = \frac{kwd^4}{t^3} \left(\frac{21}{200} \right) = \frac{kwd^4}{t^3} \left(\frac{1}{100} \right)$$

$$\delta y = y \left(\frac{1}{100} \right)$$

percentage change in $y = \pm 1$ percent of y