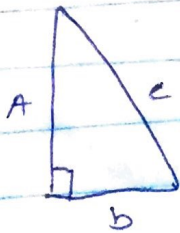


Name: Yahya Fawaz Obwole

DEPT: ~~Electrical~~ Electrical Electronics Engineering

Matric No: 17/ENG04/075



$$A = \frac{1}{2}ab$$

$$\frac{dA}{da} = \frac{b}{2}, \quad \frac{dA}{db} = \frac{a}{2}$$

$$dA = \frac{dA}{da} \cdot da + \frac{dA}{db} \cdot db$$

$$dA = \frac{b}{2} \left(\frac{+1.5a}{100} \right) + \frac{a}{2} \left(\frac{+1.5b}{100} \right)$$

$$dA = \frac{+1.5ab}{2} \left[\left(\frac{1.5}{100} \right) \right] + \left[\frac{+1.5}{100} \right]$$

$$dA = \frac{ab}{2} \left[\frac{1.5 + 1.5}{100} \right]$$

$$\frac{+1.5ab}{2} \left(\frac{3}{100} \right)$$

$$dA = 3\% \text{ of } A$$

$$(2) \quad C = \sqrt{a^2 + b^2} \quad \therefore C = (a^2 + b^2)^{\frac{1}{2}}$$

$$dC = \frac{dC}{da} \cdot da + \frac{dC}{db} \cdot db$$

$$\frac{dC}{da} = \frac{1}{2} (a^2 + b^2)^{-\frac{1}{2}} [2a] = \frac{a}{\sqrt{a^2 + b^2}}$$

$$\frac{dC}{db} = \frac{1}{2} [a^2 + b^2]^{-\frac{1}{2}} [2b] = \frac{b}{\sqrt{a^2 + b^2}}$$

also $d_a = \frac{\pm 3}{200}$, $d_b = \frac{\pm 3}{200}$

$$\begin{array}{|c|c|c|c|} \hline = & + \frac{1}{200} & \left[\frac{a^2+b^2}{\sqrt{a^2+b^2}} \right] & \\ \hline = & \pm \frac{1}{200} & \sqrt{a^2+b^2} & \pm \sqrt{200} \\ \hline \end{array}$$

$$d_c = \frac{a}{\sqrt{a^2+b^2}} \left[\frac{\pm 3a}{200} \right] + \frac{b}{\sqrt{a^2+b^2}} \left[\frac{\pm 3b}{200} \right]$$

$$d_c = \pm \frac{3}{200} \left[\frac{a^2}{\sqrt{a^2+b^2}} + \frac{b^2}{\sqrt{a^2+b^2}} \right]$$

$$d_c = \pm \frac{3}{200} \left[\frac{a^2+b^2}{\sqrt{a^2+b^2}} \right]$$

$$d_c = \pm \frac{3}{200} \left[a^2+b^2 \right]^{-1/2}$$

$$d_c = \pm \frac{3}{200} \left[\sqrt{a^2+b^2} \right]$$

$$d_c = \pm \frac{3}{200} \text{ of } C$$

$$d_c = 1.5\% \text{ of } C$$