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1) $A, \frac{1}{2}ab = a \cdot b/2$

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

$$\Delta a = \pm 3a/200, \quad \Delta b = \pm 3b/200$$

$$\begin{aligned} \Delta A &= \frac{dA}{da} \cdot \Delta a + \frac{dA}{db} \cdot \Delta b \\ &= b/2 (\pm 3a/200) + a/2 (\pm 3b/200) \\ &= \pm a \cdot b/2 \left[\frac{3}{200} + \frac{3}{200} \right] = \pm A \cdot \frac{3}{100} \end{aligned}$$

$$\therefore \Delta A = 3 \text{ Percent of } A$$

b) $C, \sqrt{a^2+b^2} = (a^2+b^2)^{1/2}$

$$\begin{aligned} \frac{dC}{da} &= \frac{1}{2} (a^2+b^2)^{-1/2} (2a) \\ &= \frac{a}{\sqrt{a^2+b^2}} \end{aligned}$$

$$\begin{aligned} \frac{dC}{db} &= \frac{1}{2} (a^2+b^2)^{-1/2} (2b) \\ &= \frac{b}{\sqrt{a^2+b^2}} \end{aligned}$$

$$\Delta a = \pm 3a/200, \quad \Delta b = \pm 3b/200$$

$$\therefore \Delta C = \frac{dC}{da} \cdot \Delta a + \frac{dC}{db} \cdot \Delta b$$

$$\Delta C = \frac{a}{\sqrt{a^2+b^2}} \left(\pm \frac{3a}{200} \right) + \frac{b}{\sqrt{a^2+b^2}} \left(\pm \frac{3b}{200} \right)$$

$$= \pm \frac{3}{200} \sqrt{a^2+b^2}$$

$$= \pm \frac{3}{200} \cdot C$$

$$\therefore \Delta C = 1.5 \text{ percent of } C$$