

$$b \cdot h = \sqrt{a^2 + b^2}$$

$$\partial h = \frac{\partial b}{\partial a} \cdot \partial a + \frac{\partial b}{\partial b} \cdot \partial b$$

$$\frac{\partial h}{\partial a} = \frac{a}{(\sqrt{a^2 + b^2})}, \quad \frac{\partial h}{\partial b} = \frac{b}{(\sqrt{a^2 + b^2})}$$

$$\partial a = \pm \frac{1.5a}{100}, \quad \partial b = \pm \frac{1.5b}{100}$$

$$\therefore \partial h = \frac{a}{(\sqrt{a^2 + b^2})} \left(\pm \frac{1.5a}{100} \right) + \frac{b}{\sqrt{a^2 + b^2}} \left(\pm \frac{1.5b}{100} \right)$$

$$= \frac{1.5a^2}{100 \sqrt{a^2 + b^2}} + \frac{1.5b^2}{100 \sqrt{a^2 + b^2}}$$

by factorization

$$\partial h = \frac{1.5}{100} \left(\frac{a^2 + b^2}{\sqrt{a^2 + b^2}} \right)$$

$$\partial h = \frac{1.5}{100} \left(\sqrt{a^2 + b^2} \right)$$

$$\text{but } h = \sqrt{a^2 + b^2}$$

$$\therefore \partial h = \pm 1.5\% h$$

\therefore There is a $\pm 1.5\%$ change in the hypotenuse when there is a $\pm 1.5\%$ in "a" and a $\pm 1.5\%$ change in "b" of the triangle.