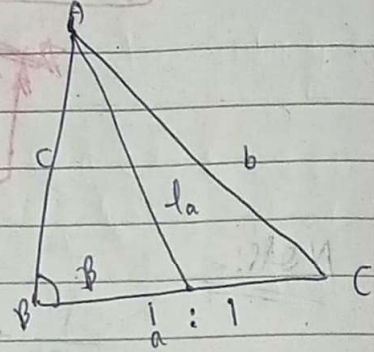


Length of Median

$$\text{Sol} \Rightarrow \frac{c^2 + a^2 - b^2}{2ac} = \frac{c^2 + \frac{a^2}{4} - da^2}{2 \times c \times \frac{a}{2}}$$



$$\Rightarrow \frac{2c^2 + 2a^2 - 2b^2}{2} = \frac{c^2 + \frac{a^2}{4} - da^2}{1}$$

$$\Rightarrow da^2 = c^2 + \frac{a^2}{4} - \frac{c^2}{2} - \frac{a^2}{2} + \frac{b^2}{2}$$

$$= \frac{2c^2 + 2b^2 - a^2}{4}$$

$$da = \frac{1}{2} \sqrt{2c^2 + 2b^2 - a^2}$$

$$db = \frac{1}{2} \sqrt{2a^2 + 2c^2 - b^2}$$

$$dc = \frac{1}{2} \sqrt{2a^2 + 2b^2 - c^2}$$

Note:

$$da^2 + db^2 + dc^2 = \frac{3}{4}(a^2 + b^2 + c^2)$$