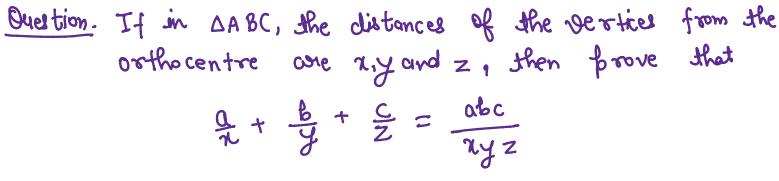
Question 5



Solution:-

We know that: -> Distance of orthocentre(H) from vertex(A) = 2R (as A Also, Sides of triangle = 2R Sin A. 2R Sin B. 2R Sin C $\therefore \quad \begin{array}{c} a_{1} + \frac{b_{1}}{y} + \frac{c_{2}}{z} \\ \hline z \end{array}$ <u>arina</u> + <u>arsinb</u> + <u>arsinc</u> <u>ariosa</u> + <u>arisc</u> <u>ariosa</u> + <u>arisc</u> = Jon At Jan 8 + Jan C - O A+ B+ C= 180' No us, ton (A + B + C) = ton 180° J Jon A + Jon B + Jon C - Jon A. Jan B. Jan C = 0 न्त्र 1-tran A. tan B- Jon 8. tan C - ton C. tan A to - ton A. ton B. ton C

: From equation (1:-)

$$\frac{a}{n} + \frac{b}{y} + \frac{c}{z} = \tan A + \tan B + \tan C$$

$$= \tan A + \tan B + \tan C$$

$$= \tan A \cdot \tan B \cdot \tan C$$

$$= \frac{\sin A}{\sqrt{8}} \cdot \frac{\sin B}{\sqrt{68}} \cdot \frac{\sin C}{\sqrt{8}C}$$

$$= \frac{(2R\sin A)}{(2R\cos A)} \cdot \frac{(2R\sin B)}{(2R\cos B)} \cdot \frac{(2R\sin C)}{(2R\cos C)}$$

$$= \frac{a b c}{\sqrt{3} y z} \quad \text{Nence, braved}$$