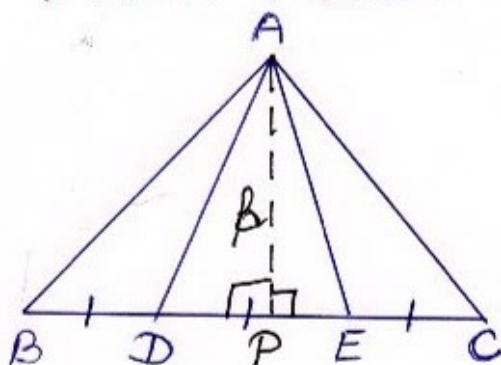


9-ncert 9.4.a.2



to prove $ar(\triangle ABD) = ar(\triangle ADE) = ar(\triangle AEC)$

construction draw $AP \perp BC$

proof let $BD = DE = EC = x$

$$\begin{aligned} ar(\triangle ABD) &= \frac{1}{2} \times BD \times AP \\ &= \frac{1}{2} x p \text{ sq. units} \dots \textcircled{i} \end{aligned}$$

$$\begin{aligned} ar(\triangle ADE) &= \frac{1}{2} \times DE \times AP \\ &= \frac{1}{2} x p \text{ sq. units} \dots \textcircled{ii} \end{aligned}$$

$$\begin{aligned} ar(\triangle AEC) &= \frac{1}{2} \times EC \times AP \\ &= \frac{1}{2} x p \text{ sq. units} \dots \textcircled{iii} \end{aligned}$$

From \textcircled{i} , \textcircled{ii} , \textcircled{iii}

$$ar(\triangle ABD) = ar(\triangle ADE) = ar(\triangle AEC)$$

yes.