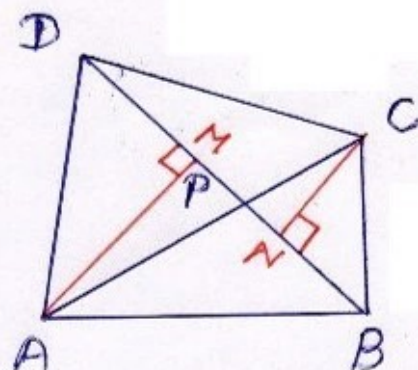


9-ncert a6

to prove

$$\begin{aligned} \text{ar}(\triangle APB) \times \text{ar}(\triangle CPD) \\ = \text{ar}(\triangle APD) \times \text{ar}(\triangle BPC) \end{aligned}$$



construction draw $AP \perp BD$, $CN \perp BD$

proof $\text{ar}(\triangle APB) \times \text{ar}(\triangle CPD)$

$$\begin{aligned} & \frac{1}{2} \times BP \times AM \times \frac{1}{2} \times DP \times CN \\ &= \frac{1}{2} \times DP \times AM \times \frac{1}{2} \times BP \times CN \\ &= \text{ar}(\triangle APD) \times \text{ar}(\triangle BPC) \end{aligned}$$