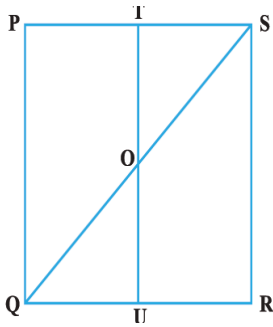
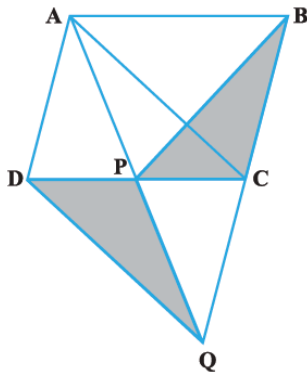


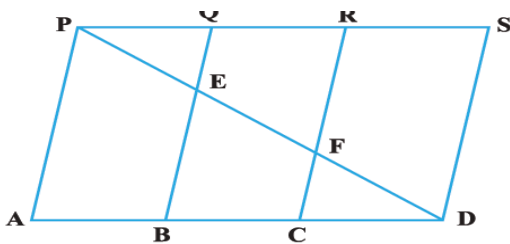
1. PQRS is a square. T and U are respectively, the mid-points of PS and QR. Find the area of  $\Delta OTS$ , if  $PQ = 8$  cm, where O is the point of intersection of TU and QS.



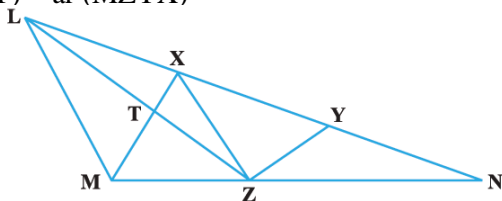
2. ABCD is a parallelogram and BC is produced to a point Q such that  $AD = CQ$  (Fig. 2). If AQ intersects DC at P, show that  $\text{ar}(\text{BPC}) = \text{ar}(\text{DPQ})$



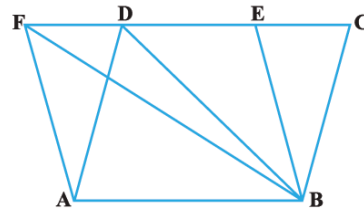
3. In Fig.3, PSDA is a parallelogram. Points Q and R are taken on PS such that  $PQ = QR = RS$  and  $PA \parallel QB \parallel RC$ . Prove that  $\text{ar}(\text{PQE}) = \text{ar}(\text{CFD})$ .



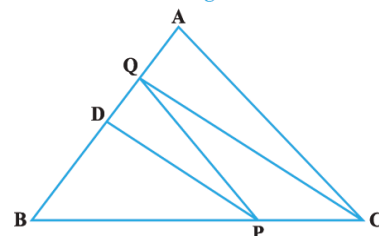
4. X and Y are points on the side LN of the triangle LMN such that  $LX = XY = YN$ . Through X, a line is drawn parallel to LM to meet MN at Z (See Fig. 4). Prove that  $\text{ar}(\text{LZY}) = \text{ar}(\text{MZYX})$



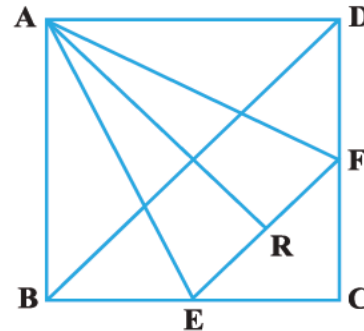
5. The area of the parallelogram ABCD is  $90 \text{ cm}^2$  (see Fig.5). Find (i)  $\text{ar}(\text{ABEF})$  (ii)  $\text{ar}(\text{ABD})$  (iii)  $\text{ar}(\text{BEF})$



6. In  $\Delta ABC$ , D is the mid-point of AB and P is any point on BC. If  $CQ \parallel PD$  meets AB in Q (Fig. 6), then prove that  $\text{ar}(\text{BPQ}) = 1/2 \text{ar}(\text{ABC})$ .



7. ABCD is a square. E and F are respectively the midpoints of BC and CD. If R is the mid-point of EF (Fig. 7), prove that  $\text{ar}(\text{AER}) = \text{ar}(\text{AFR})$



8. O is any point on the diagonal PR of a parallelogram PQRS (Fig. 8). Prove that  $\text{ar}(\text{PSO}) = \text{ar}(\text{PQO})$ .

