

CHAPTER 9

Areas of Parallelogram and Triangles

1 EXERCISE 9.9.3

1. In fig.1, $PSDA$ is a Parallelogram. Points **Q** and **R** are taken on PS such that $PQ = QR = RS$ and $PA \parallel QB \parallel RC$. Prove that $ar(PQE) = ar(CFD)$.

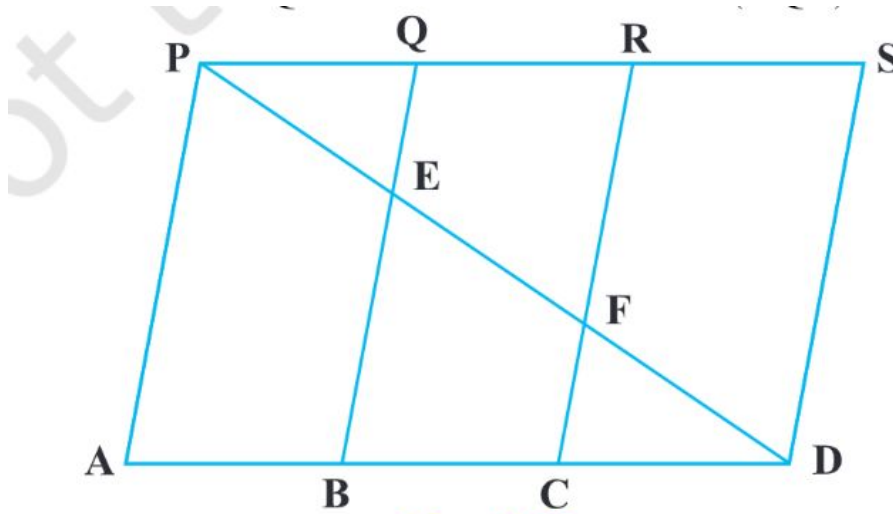


Fig. 9.11

Figure 1

2. **X** and **Y** are 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.2). Prove that $ar(LYZ) = ar(MZYX)$
3. The area of the parallelogram $ABCD$ is $90cm^2$ (See fig.3). Find

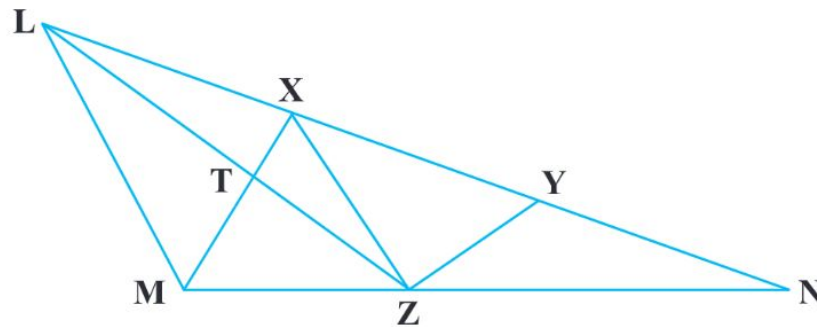


Fig. 9.12

Figure 2

- (a) $ar(ABEF)$
- (b) $ar(ABD)$
- (c) $ar(BEF)$

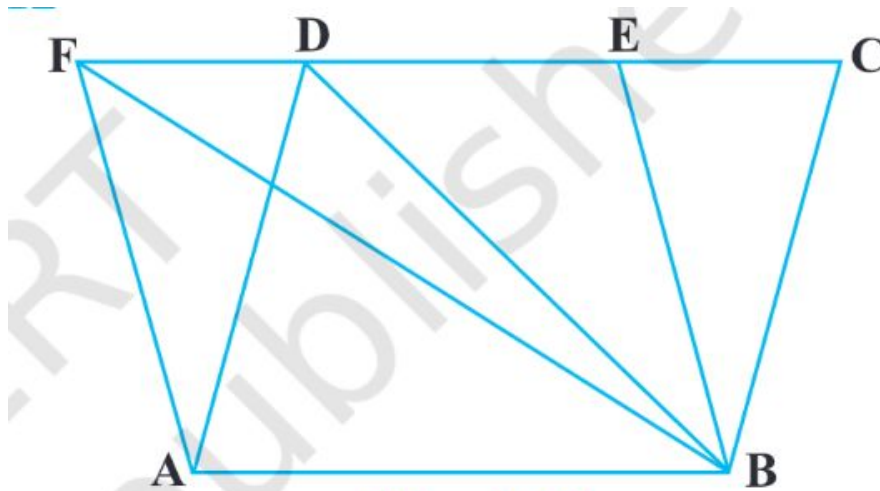


Fig. 9.13

Figure 3

4. In $\triangle ABC$, **D** is the mid-point of AB and **P** is any point on BC . If $CQ \parallel PD$ meets AB in **Q** (fig.4), then prove that $ar(BPQ) = \frac{1}{2}ar(ABC)$.
5. $ABCD$ is a square. **E** and **F** are respectively the mid-points of BC and CD . If **R** is the mid-point of EF (fig.5), Prove that $ar(AER) = ar(AFR)$

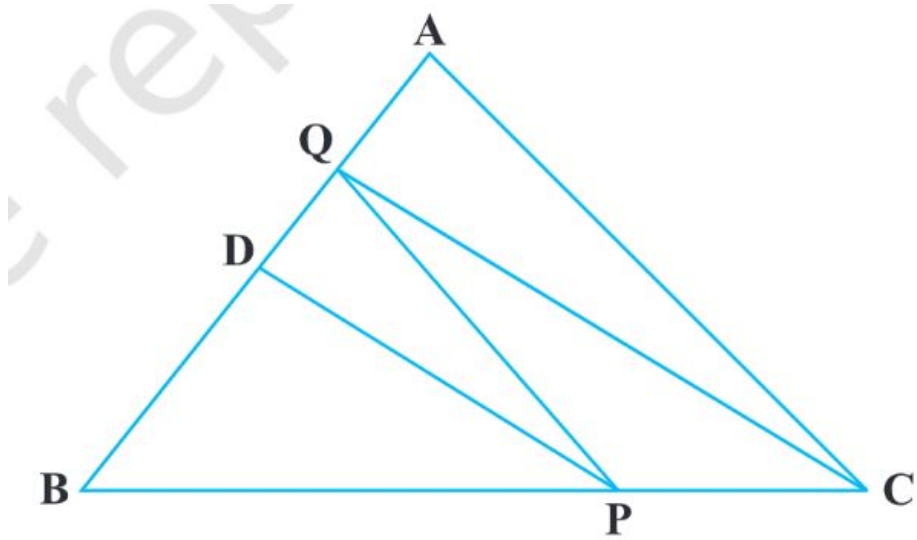


Fig. 9.14

Figure 4

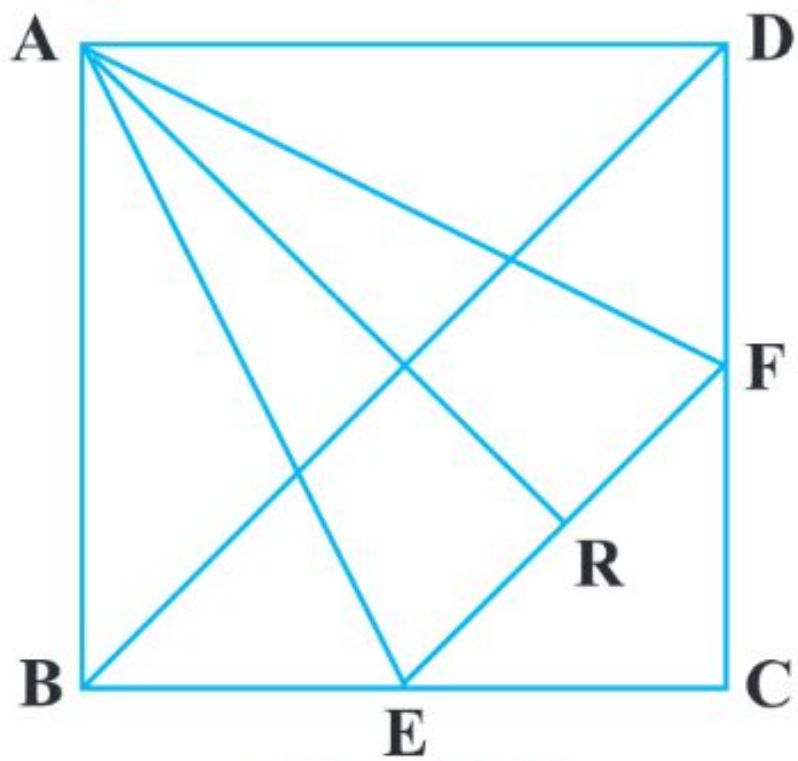


Fig. 9.15

Figure 5