

Geometrical Construction Steps for Exercise 3.5

(a) Quadrilateral PQRS

Construct a quadrilateral PQRS with $PQ = 3.6$ cm, $QR = 4.5$ cm, $RS = 5.6$ cm, $\angle PQR = 135^\circ$ and $\angle QRS = 60^\circ$.

Construction Steps:

1. Draw a line segment $PQ = 3.6$ cm.
2. Draw a ray at Q making an angle of 135° with PQ.
3. With Q as centre and radius 4.5 cm, draw an arc cutting the ray at R.
4. Draw a ray at R making an angle of 60° with QR.
5. With R as centre and radius 5.6 cm, draw an arc cutting the ray at S.
6. Join PS.
7. The required quadrilateral PQRS is formed.

(b) Quadrilateral LAMP

Construct a quadrilateral LAMP with $AM = MP = PL = 5$ cm, $\angle M = 90^\circ$ and $\angle P = 60^\circ$.

Construction Steps:

1. Draw a line segment $AM = 5$ cm.
2. Draw a ray at M making an angle of 90° with AM.
3. With M as centre and radius 5 cm, draw an arc cutting the ray at P.
4. Draw a ray at P making an angle of 60° with PM.
5. With P as centre and radius 5 cm, draw an arc cutting the ray at L.
6. Join AL.
7. The required quadrilateral LAMP is formed.

(c) Trapezium ABCD

Construct a trapezium ABCD in which $AB \parallel CD$, $AB = 8$ cm, $BC = 6$ cm, $CD = 4$ cm and $\angle B = 60^\circ$.

Construction Steps:

1. Draw a line segment $AB = 8$ cm.
2. Draw a ray at B making an angle of 60° with AB.
3. With B as centre and radius 6 cm, draw an arc cutting the ray at C.
4. Draw a ray at C making an angle of 120° with BC.
5. With C as centre and radius 4 cm, draw an arc cutting the ray at D.
6. Join AD.
7. The required trapezium ABCD is formed.

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