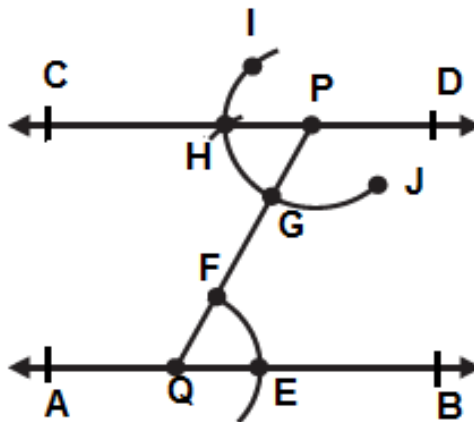


## EXERCISE 10.1

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**1. Draw a line, say AB, take a point C outside it. Through C, draw a line parallel to AB using ruler and compasses only.**

**Solution:-**

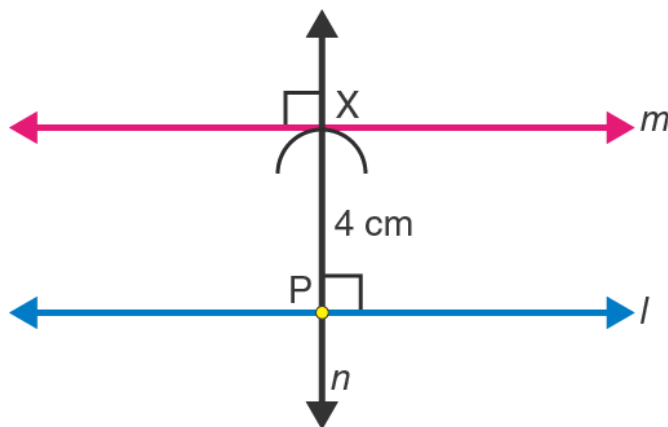


Steps for construction,

1. Draw a line AB.
2. Take any point Q on AB and a point P outside AB and join PQ.
3. With Q as center and any radius draw an arc to cut AB at E and PQ at F.
4. With P as center and same radius draw an arc IJ to cut QP at G.
5. Place the pointed tip of the compass at E and adjust the opening so that the pencil tip is at F.
6. With the same opening as in step 5 and with G as center, draw an arc cutting the arc IJ at H.
7. Now, join PH to draw a line CD.

**2. Draw a line L. Draw a perpendicular to L at any point on L. On this perpendicular choose a point X, 4 cm away from I. Through X, draw a line m parallel to L.**

**Solution:-**

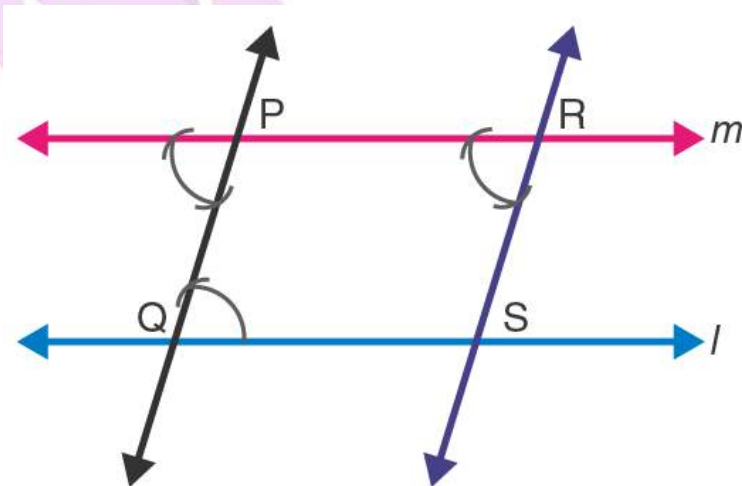


Steps for construction,

1. Draw a line L.
2. Take any point P on line L.
3. At point P, draw a perpendicular line N.
4. Place the pointed tip of the compass at P and adjust the compass up to length of 4 cm, draw an arc to cut this perpendicular at point X.
5. At point X, again draw a perpendicular line M.

**3. Let L be a line and P be a point not on L. Through P, draw a line m parallel to L. Now join P to any point Q on L. Choose any other point R on m. Through R, draw a line parallel to PQ. Let this meet L at S. What shape do the two sets of parallel lines enclose?**

**Solution:-**



Steps for construction,

1. Draw a line L.
2. Take any point Q on L and a point P outside L and join PQ.

3. Make sure that angles at point P and point Q are equal i.e.  $\angle Q = \angle P$
4. At point P extend line to get line M which is parallel L.
5. Then take any point R on line M.
6. At point R draw angle such that  $\angle P = \angle R$
7. At point R extend line which intersects line L at S and draw a line RS.

