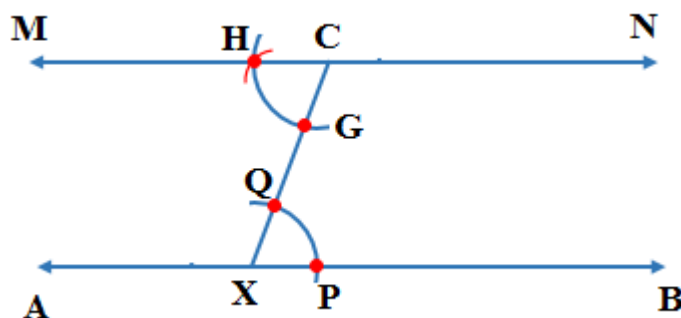


Practical Geometry: Exercise 10.1

Q.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.

Sol:

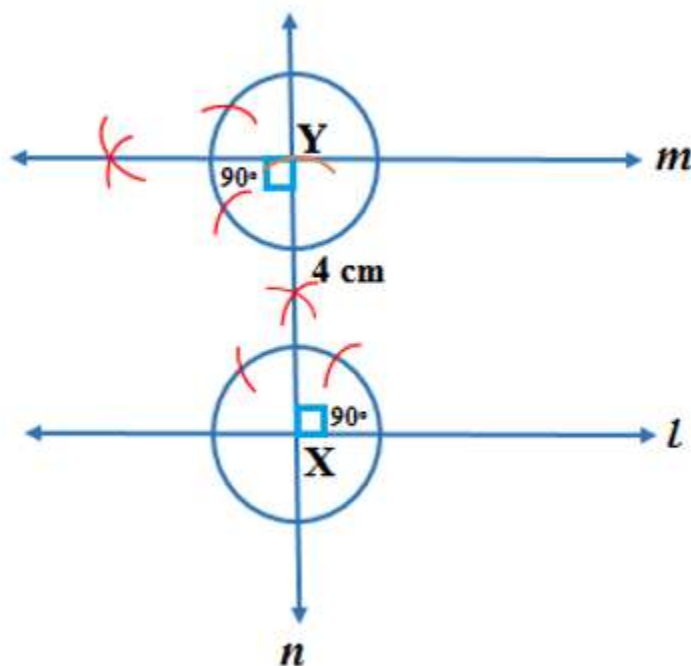


Construction Steps:

1. Firstly, draw a line AB with help of ruler and pencil.
2. Take a point X on line AB and a point C outside line AB and join the points CX.
3. Take point X as center and draw an arc of any radius which cuts line AB at point P and line CX at Q.
4. Now take C as center and draw an arc of same radius which cuts line CX at G.
5. Place the pointed tip of the compass at point P and pencil tip at point Q.
6. Now, with this opening of compass, take G as center, draw an arc which cuts the arc at H.
7. Now, join the points P and H to draw a line MN.

Q.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 l . Through X, draw a line m parallel to l .

Sol:

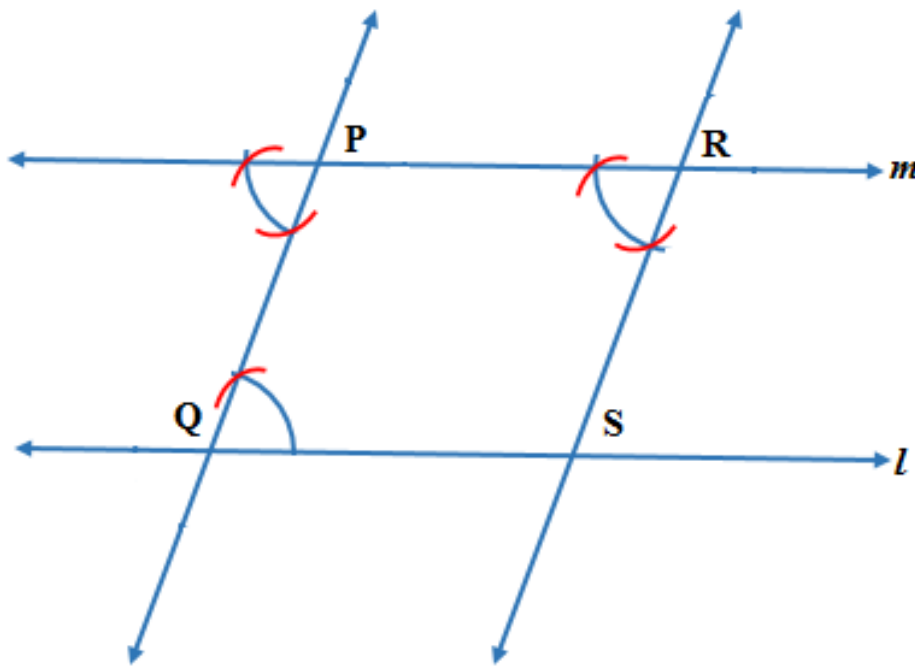


Construction Steps:

1. Firstly, draw a line l with help of pencil and ruler.
 2. Now, take a point X on line l .
 3. At point X , draw a perpendicular line n by making angle of 90° with help of compass.
 4. Place the pointed tip of the compass at X and take the radius of length 4 cm, draw an arc which cuts the line n at point Y .
 5. Now, at point Y , again draw a perpendicular line m by making angle of 90° with help of compass.
- Thus, we get the line $m \parallel l$.

Q.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?

Sol:

**Construction Steps:**

1. Draw a line l with help of pencil and ruler.
2. Now, take a point Q on l and a point P outside l and join the points P and Q .
3. At point P draw angle $\angle P$ with help of compass which is equal to $\angle Q$ as shown in fig.
4. At point P , extend the angle line to get line m which is parallel l .
5. Now, take another point R on line m .
6. Now, at point R draw angle $\angle R$ with help of compass which is equal to $\angle P$.
7. At point R extend line which intersects line l at S and draw a line RS .