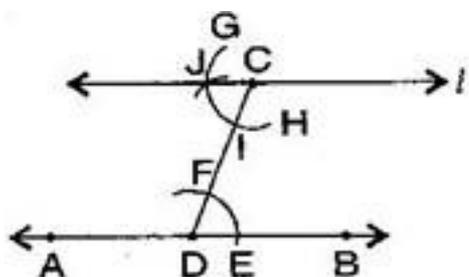


CBSE Class –VII Mathematics
NCERT Solutions
Chapter 10 Practical Geometry (Ex. 10.1)

Question 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.

Answer: To construct: A line, parallel to given line by using ruler and compass.



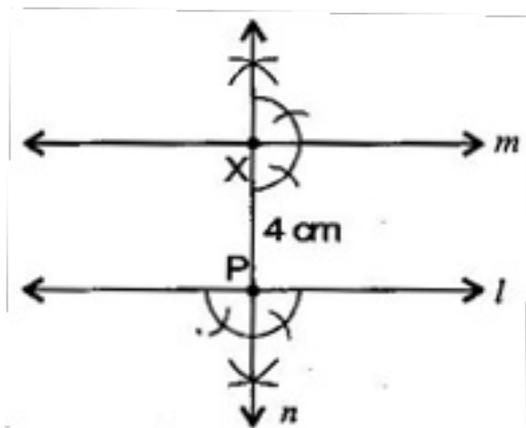
Steps of construction:

- (a) Draw a line-segment AB and take a point C outside AB.
- (b) Take any point D on AB and join C to D.
- (c) With D as centre and take convenient radius, draw an arc cutting AB at E and CD at F.
- (d) With C as centre and same radius as in step 3, draw an arc GH cutting CD at I.
- (e) With the same arc EF, draw the equal arc cutting GH at J.
- (f) Join JC to draw a line l .

This the required line $AB \parallel l$.

Question 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 .

Answer: To construct: A line parallel to given line when perpendicular line is also given.

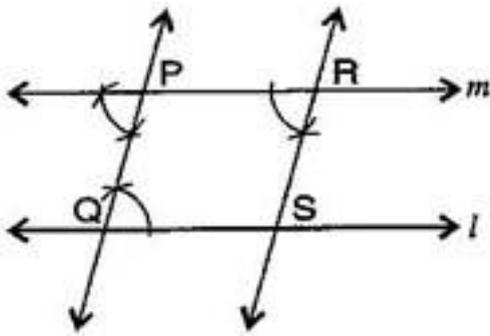


Steps of construction:

- (a) Draw a line l and take a point P on it.
 - (b) At point P, draw a perpendicular line n .
 - (c) Take $PX = 4$ cm on line n .
 - (d) At point X, again draw a perpendicular line m .
- It is the required construction.

Question 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?

Answer: To construct: A pair of parallel lines intersecting other part of parallel lines.



Steps of construction:

- (a) Draw a line l and take a point P outside of l .
- (b) Take point Q on line l and join PQ.
- (c) Make equal angle at point P such that $\angle Q = \angle P$.
- (d) Extend line at P to get line m .
- (e) Similarly, take a point R on line m , at point R, draw angles such that $\angle P = \angle R$.
- (f) Extended line at R which intersects at S on line l . Draw line RS.

Thus, we get parallelogram PQRS.