

# **MATHEMATICS**

**Class-7th**

**Chapter-10**

*Practical  
Geometry*

**Exercise-10.1**

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# Mathematics

(Chapter – 10) (Practical Geometry)

(Class – VII)

## Exercise 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.

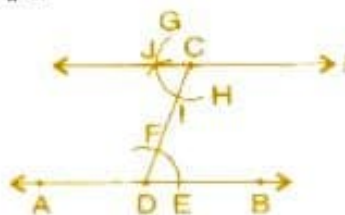
### Answer 1:

**To construct:** A line, parallel to given line by using ruler and compasses.

**Steps of construction:**

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

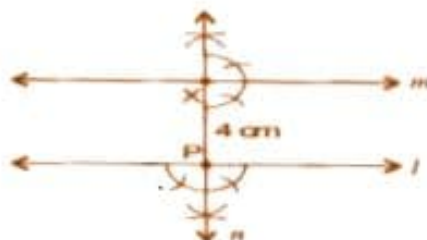
### Answer 2:

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

**Steps of construction:**

- Draw a line  $l$  and take a point P on it.
- At point P, draw a perpendicular line  $n$ .
- Take  $PX = 4$  cm on line  $n$ .
- 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 3:

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

**Steps of construction:**

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

Thus, we get parallelogram  $PQRS$ .

