

# Mathematics

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(Chapter – 14) (Practical Geometry)  
(Class – VI)

## Exercise 14.4

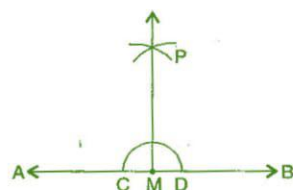
### Question 1:

Draw any line segment  $\overline{AB}$ . Mark any point M on it. Through M, draw a perpendicular to  $\overline{AB}$ . (Use ruler and compasses)

### Answer 1:

#### Steps of construction:

- With M as centre and a convenient radius, draw an arc intersecting the line AB at two points C and D.
- With C and D as centres and a radius greater than MC, draw two arcs, which cut each other at P.
- Join PM. Then PM is perpendicular to AB through the point M.



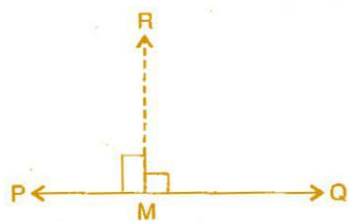
### Question 2:

Draw any line segment  $\overline{PQ}$ . Take any point R not on it. Through R, draw a perpendicular to  $\overline{PQ}$ . (Use ruler and set-square)

### Answer 2:

#### Steps of construction:

- Place a set-square on  $\overline{PQ}$  such that one arm of its right angle aligns along  $\overline{PQ}$ .
- Place a ruler along the edge opposite to the right angle of the set-square.
- Hold the ruler fixed. Slide the set square along the ruler till the point R touches the other arm of the set square.
- Join RM along the edge through R meeting  $\overline{PQ}$  at M. Then  $RM \perp PQ$ .



### Question 3:

Draw a line  $l$  and a point X on it. Through X, draw a line segment  $\overline{XY}$  perpendicular to  $l$ . Now draw a perpendicular to  $\overline{XY}$  to Y. (use ruler and compasses)

### Answer 3:

#### Steps of construction:

- Draw a line ' $l$ ' and take point X on it.
- With X as centre and a convenient radius, draw an arc intersecting the line ' $l$ ' at two points A and B.
- With A and B as centres and a radius greater than XA, draw two arcs, which cut each other at C.
- Join AC and produce it to Y. Then XY is perpendicular to ' $l$ '.
- With D as centre and a convenient radius, draw an arc intersecting XY at two points C and D.
- With C and D as centres and radius greater than YD, draw two arcs which cut each other at F.
- Join YF, then YF is perpendicular to XY at Y.

