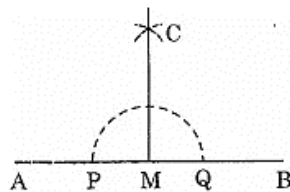| Board –CBSE | Class – 6th | Topic – Practical Geometry Ex: 14.4 |

Exercise 14.4

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

Ans. Step I: Draw a line segment $\overline{AB}$ and mark any point M on it.

Step II: Put the pointer of the compass at M and draw an arc of suitable radius such that it intersects $\overline{AB}$ at P and Q.

Step III: Take P and Q as centers and radius greater than PM, draw two arcs such that they intersect each other at C.
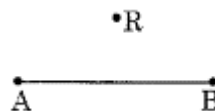
Step IV: Join M and C.

Thus CM is perpendicular to $\overline{AB}$.

2. Draw any line segment $\overline{PQ}$. Take any point R, not on it. Through R, draw a perpendicular to $\overline{PQ}$. (Use a ruler and set square).
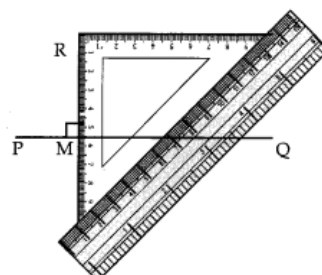
Ans. Step I: Draw a line segment $\overline{PQ}$ and a point R outside of $\overline{PQ}$.

Step II: Place a set square on $\overline{PQ}$ such that one side of its right angle is along it.

Step III: Place a ruler along the longer side of the set square.

Step IV: Hold the ruler fix and slide the set square along the ruler till it touches the point R.
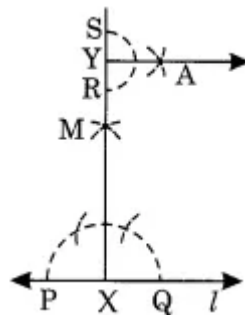
Step V : Join RM along the edge through R. Thus $\overline{RM} \perp \overline{PQ}$.

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 $\overline{XY}$ at y. (Use ruler and compasses)

Ans. Step I: Draw a line l and take a point X on it.

Step II: Draw an arc with center X and of suitable radius to intersect the line l at two points P and Q.

Step III: With P and Q as centers and a radius greater than P draw two arcs to intersect each other at M.

Step IV: Join XM and produce to Y.

Step V: With Y as the center and a suitable radius, draw an arc to intersect XY at two points R and S.

Step VI: With R and S as centers and radius greater than YR, draw two arcs to intersect each other at A.

Step VII: Join Y and A. Thus YA ⊥ XY.