Board –CBSE	Class – 6th	Topic – Practical Geometry Ex:14.2

Exercise 14.2

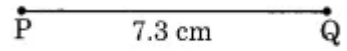
1. Draw a line segment of length 7.3 cm using a ruler.

Ans. Step I: Mark at point P.

Step II: Place the O mark of the ruler against point P.

Step III: Mark a point Q at a distance of 7.3 cm from P.

Step IV: Join P and Q.



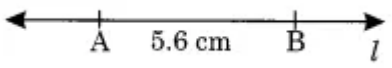
Thus $\overline{PQ}$ is the line segment of length 7.3 cm.

2. Construct a line segment of length 5.6 cm using a ruler and compass.

Ans. Step I: Draw any line L of suitable lengths.

Step II: Place the needle of the compass on the zero mark of the ruler and open it up to the 5.6 mark.

Step III: Place the needle at any point A at the line and draw an arc to cut l at B.



Thus, $\overline{AB}$ is the required line segment of length 5.6 cm.

3. Construct $\overline{AB}$ of length 7.8 cm. From this, cut off $\overline{AC}$ of length 4.7 cm. Measure $\overline{BC}$.

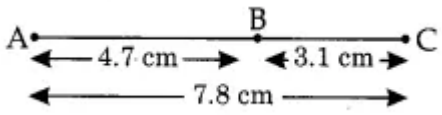
Ans. Given that $\overline{AB}$ = 7.8 cm and $\overline{AC}$ = 4.7 cm.

Step I: Place zero mark of the ruler at A.

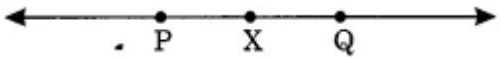
Step II: Mark a point B at a distance of 7.8 cm from A.

Step III: Mark another point C at a distance of 4.7 cm from A such that AC = 4.7 cm.

Step IV: On measuring the length of BC, we find that $\overline{BC}$ = 3.1 cm.



4. Given $\overline{AB}$ of length 3.9 cm. Construct $\overline{PQ}$ such that the length of $\overline{PQ}$ is twice that of $\overline{AB}$. Verify by measurement.



(Hint: Construct $\overline{PX}$ such that the length of $\overline{PX}$ = length of $\overline{AB}$ then cut off $\overline{XQ}$ such that $\overline{XQ}$ also has the length of $\overline{AB}$.

Ans. Step I: Draw a line l of suitable length.

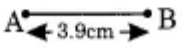
Step II: Draw $\overline{AB}$ = 3.9 cm

Step III: From the line, construct $\overline{PX}$ = $\overline{AB}$ = 3.9 cm.

Step IV: Again construct $\overline{XQ}$ = $\overline{AB}$ =3.9 cm

Verification: $\overline{PX}$ + $\overline{XQ}$ = $\overline{AB}$ + $\overline{AB}$

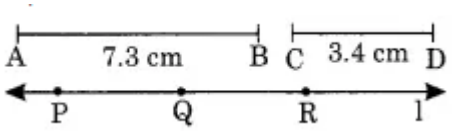
$\therefore$ $\overline{PQ}$ = 3.9 + 3.9 = 7.8 cm



Thus twice of $\overline{AB}$ is equal to $\overline{PQ}$

5. Given $\overline{AB}$ of length 7.3 cm and $\overline{CD}$ of length 3.4 cm, construct a line segment $\overline{XY}$ such that the length of XY is equal to the difference between the length of $\overline{AB}$ and $\overline{CD}$.
Verify the measurement.

Ans. Step I : Construct $\overline{AB}$ = 7.3 cm and $\overline{CD}$ = 3.4 cm.



Step II: Take a point P on the given line l.

Step III: Construct $\overline{PR}$ such that $\overline{PR}$ = $\overline{AB}$ = $\overline{AB}$ = 7.3 cm.

Step IV: Construct $\overline{RQ}$ = $\overline{CD}$ = 3.4 cm such that PQ = $\overline{AB}$ – $\overline{CD}$.

Verification : On measuring, we observe that $\overline{PQ}$ = 3.9 cm = 7.3 cm 3.4 cm.

= $\overline{AB}$ – $\overline{CD}$

Thus, $\overline{PQ}$ = $\overline{AB}$ – $\overline{CD}$.