Chapter 12: Geometrical Constructions
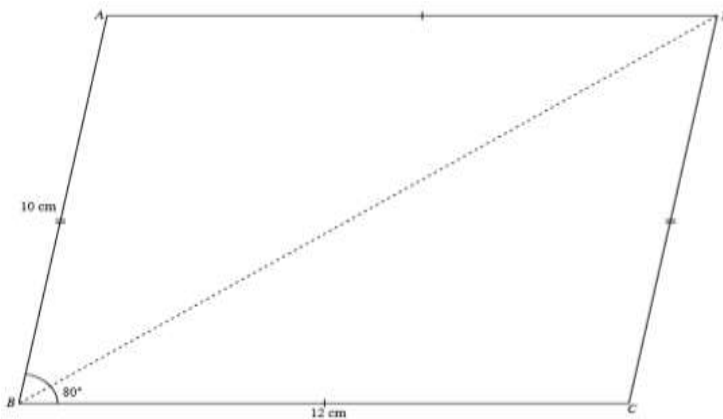
Ex-12(B)-Page 310

Q1. Construct a parallelogram ABCD such that AB = 10cm, BC= 12cm, and A$\hat{B}$C = 80°. Measure and write down the length of the diagonal BD.

STEPS: (i) Draw a line segment of length 12cm using a ruler and name as BC.

(ii) Since <B= 80°, using a protractor at B, measure and draw the angle 80°.

(iii) Since AB=10cm, measure 10cm in compass and keeping B as centre, cut an arc from B and name the point as A.

(iv) Join BA.

(v) As opposite sides are equal, we have BC= AD. So as AD=12cm, measure 12cm in compass and keeping A as centre, draw an arc from A.

(vi) Similarly, we have AB= CD. So as CD=10cm, measure 10cm in compass and keeping C as centre, cut the previously drawn arc and name it as D.

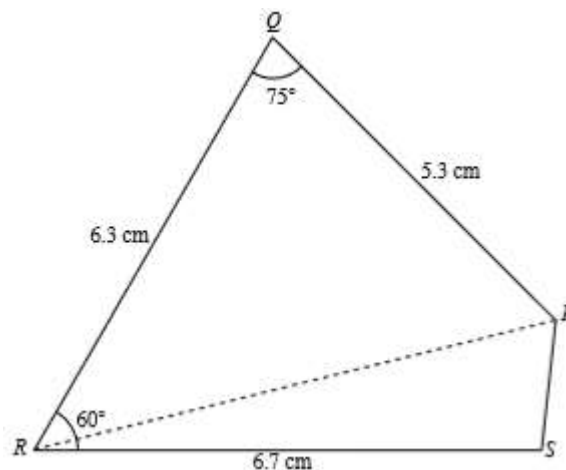**(vi) Join AD and BD. The required quadrilateral ABCD is constructed.**

Q6. Construct a quadrilateral PQRS such that PQ= 5.3CM, QR= 6.3cm, RS= 6.7cm, $P\hat{Q}R$= 75° and $Q\hat{R}S$= 60°.

(i) Measure and write down the length of PR.

(ii) Measure and write down the size of $R\hat{P}S$.

Steps: (i) Using a ruler, draw RS= 6.7cm.

(ii) Since <R=60°, with R as centre using protractor measure and draw the angle.

(iii) As QR=6.3cm, using compass, R as centre and 6.3cm as radius, cut an arc on the drawn line and mark the point as Q.

(iv) Since <Q=75°, with Q as centre using protractor measure and draw the angle.

(v) As QP=5.3cm, using compass, Q as centre and 5.3cm as radius, cut an arc on the drawn line and mark the point as P.

(vi) Join PS. The required quadrilateral PQRS is constructed.