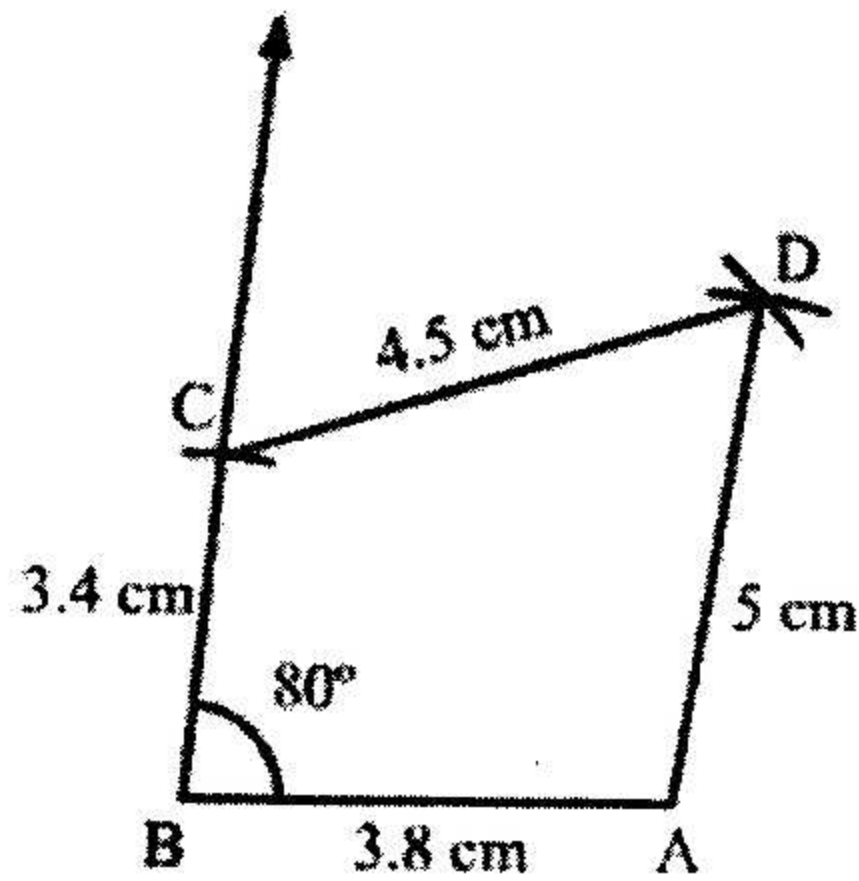


Exercise 18.3

⑪ ②

Q.1: Construct a quadrilateral ABCD in which $AB = 3.8$ cm, $BC = 3.4$ cm, $CD = 4.5$ cm, $AD = 5$ cm, $\angle B = 80^\circ$.

Sol:



Solutions:

Steps of construction:

Step I: Draw $AB = 3.8$ cm.

Step II: Construct $\angle ABC = 80^\circ$.

Step III: With B as the center and radius 3.4 cm, cut off $BC = 3.4$ cm.

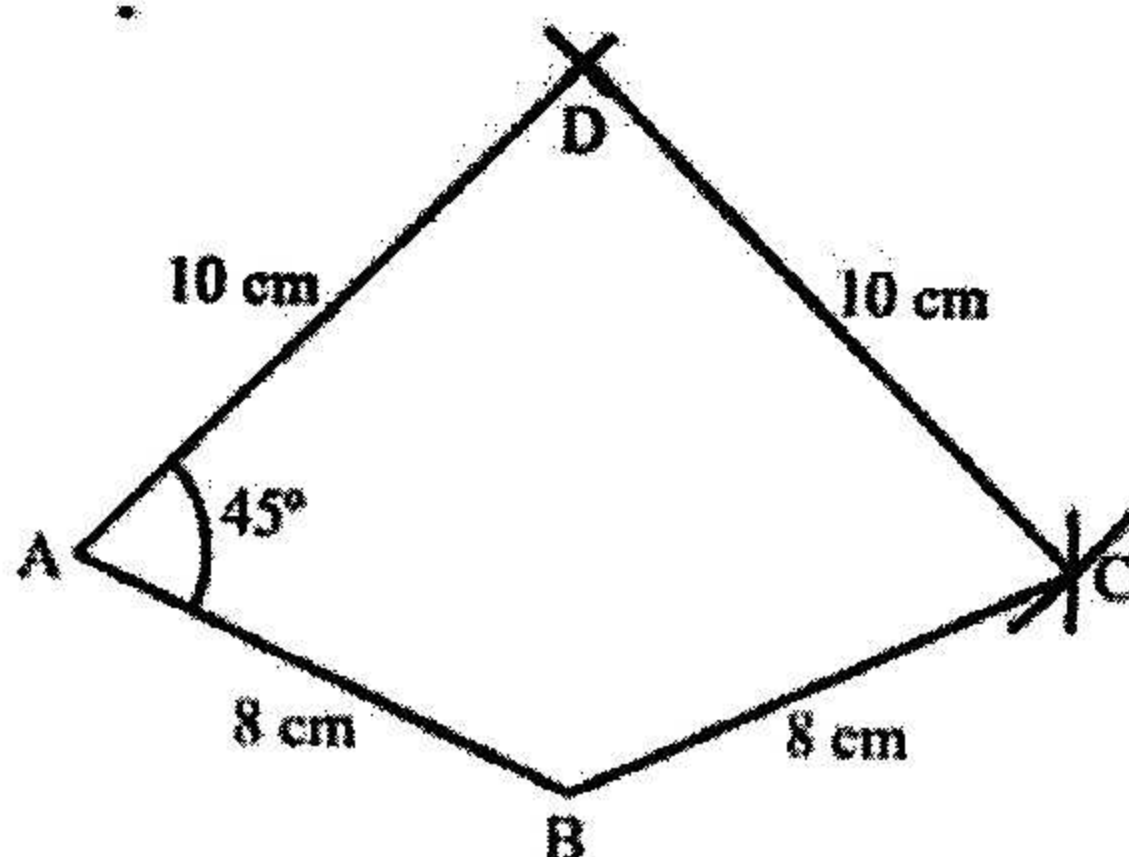
Step IV: With C as the center and radius 4.5 cm, draw an arc.

Step V: With A as the center and radius 5.3 cm, draw an arc to intersect the arc drawn in Step IV at D.

Step VI: Join AD, BC and CD to obtain the required quadrilateral.

Q.2 Construct a quadrilateral ABCD, given that $AB = 8$ cm, $BC = 8$ cm, $CD = 10$ cm, $AD = 10$ cm, $\angle A = 45^\circ$.

Sol:



Solutions:

Steps of construction:

Step I: Draw $AB = 8$ cm.

Step II: Construct $\angle BAD = 45^\circ$.

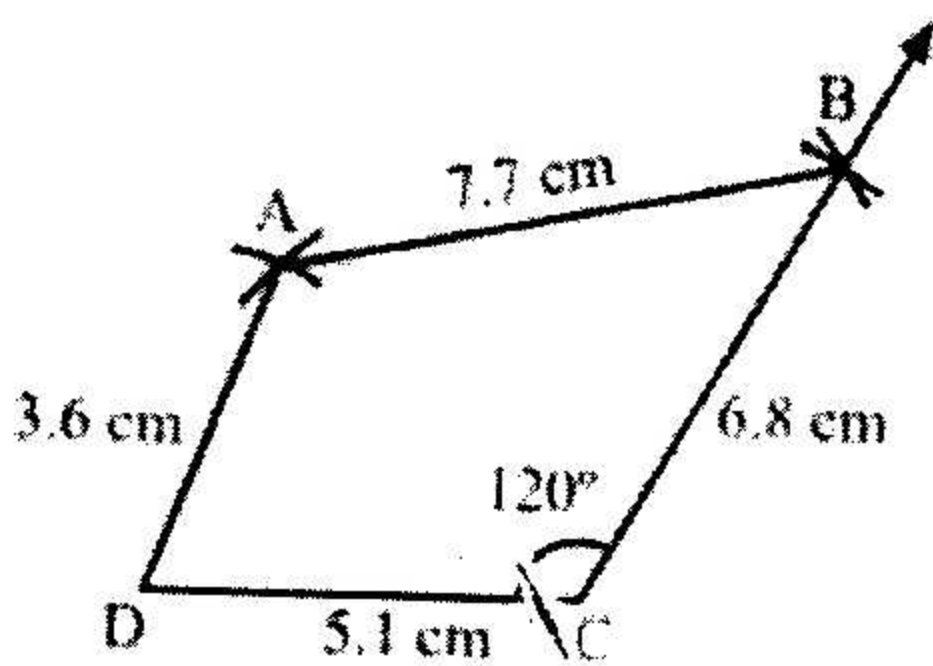
Step III: With A as the centre and radius 10 cm, cut off $AD = 10$ cm.

Step IV: With D as the centre and radius 10 cm, draw an arc.

Step V: With B as the centre and radius 8 cm, draw an arc to intersect the arc drawn in Step IV at C .

Step VI: Join BC and CD to obtain the required quadrilateral.

Question 3: *Construct a quadrilateral $ABCD$ in which $AB = 7.7$ cm, $BC = 6.8$ cm, $CD = 5.1$ cm, $AD = 3.6$ cm, $\angle C = 120^\circ$*



Step I: Draw $DC = 5.1$ cm.

Step II: Construct $\angle DCB = 120^\circ$.

Step III: With C as the center and radius 6.8 cm, cut off $BC = 6.8$ cm.

Step IV: With B as the center and radius 7.7 cm, draw an arc.

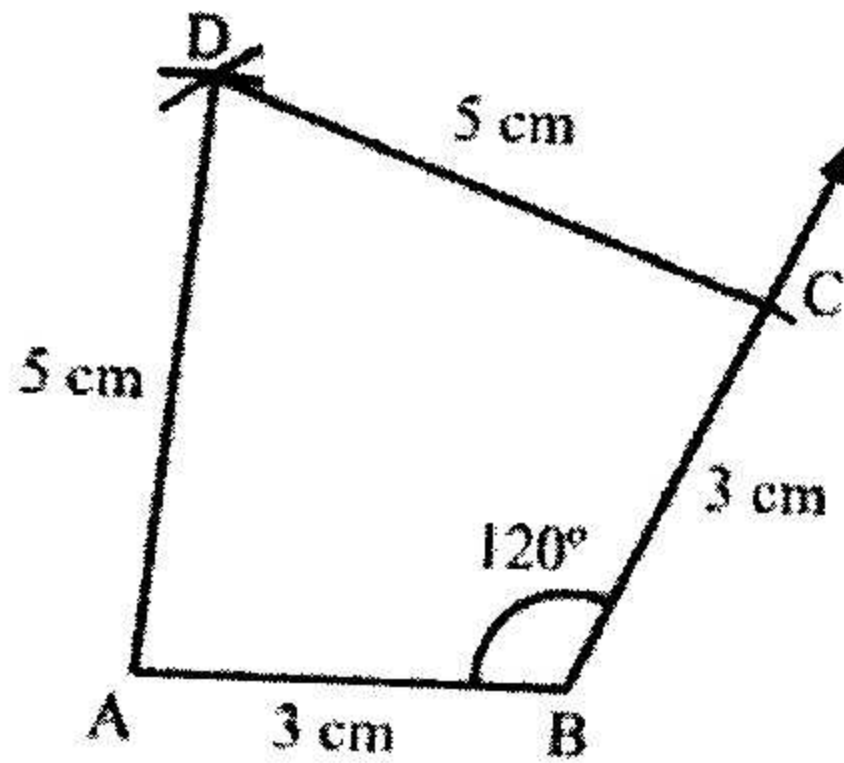
Step V: With D as the center and radius 3.6 cm, draw an arc to intersect the arc drawn in Step IV at A .

Step VI: Join AB and AD to obtain the required quadrilateral.

Q. 4 ~~Construct a quadrilateral $ABCD$ in which $AB = BC = 3$ cm, $AD = CD = 5$ cm and $\angle B = 120^\circ$~~

Exercise 18.3

Question 4:

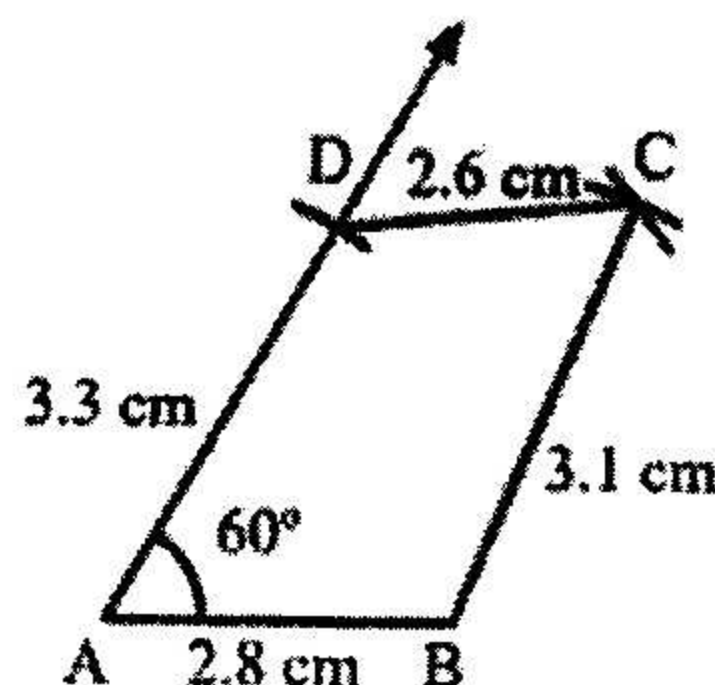


Solutions:

Steps of construction:

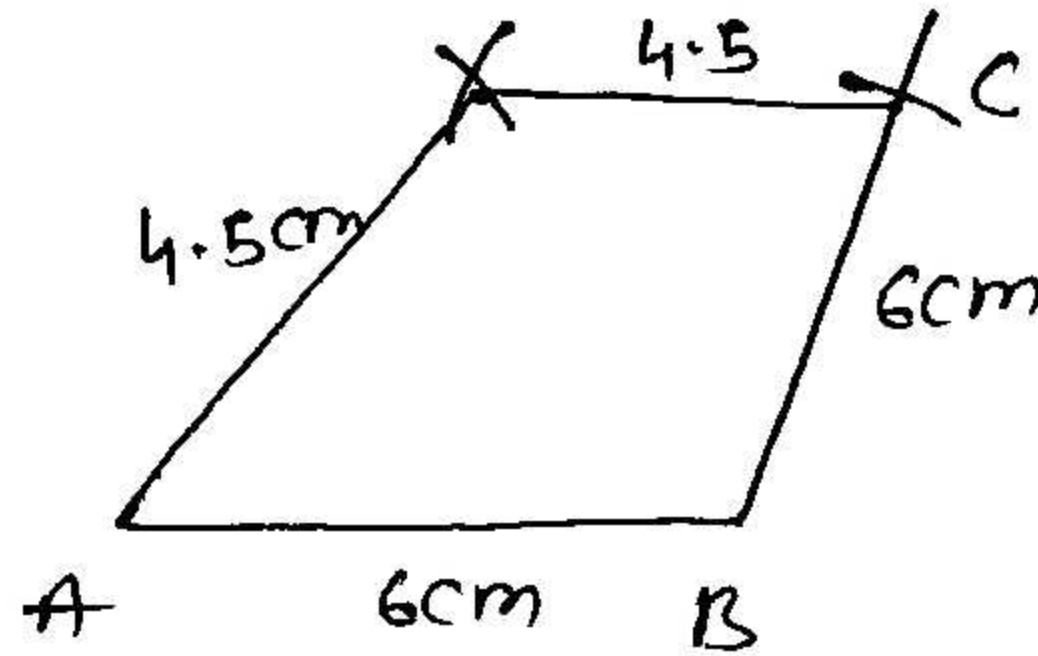
Step I: Draw $AB = 3$ cm.Step II: Construct $\angle ABC = 120^\circ$.Step III: With B as the center and radius 3 cm, cut off $BC = 3$ cm.Step IV: With C as the center and radius 5 cm, draw an arc.Step V: With A as the center and radius 5 cm, draw an arc to intersect the arc drawn in Step IV at D .Step VI: Join AD and CD to obtain the required quadrilateral.

Q.5 Construct a quadrilateral $ABCD$ in which $AB = 2.8$ cm
 $BC = 3.1$ cm, $CD = 2.6$ cm and $DA = 3.3$ cm, $\angle A = 60^\circ$



Q6 : Construct a quadrilateral ABCD in which
 $AB = BC = 6\text{ cm}$, $AD = DC = 4.5\text{ cm}$ and $\angle B = 120^\circ$.

Sol :



aglasem