

RD SHARMA

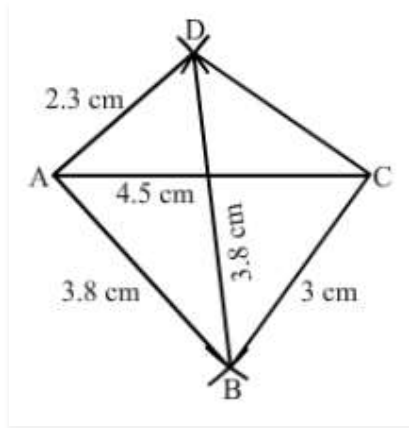
Solutions

Class 8 Maths

Chapter 18

Ex 18.2

1. Construct a quadrilateral ABCD in which $AB = 3.8$ cm, $BC = 3.0$ cm, $AD = 2.3$ cm, $AC = 4.5$ cm and $BD = 3.8$ cm.



Steps of construction:

Step I: Draw $AC = 6$ cm.

Step II: With A as the center and radius 3.8 cm, draw an arc.

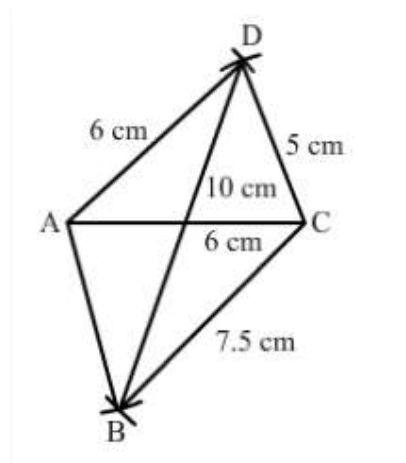
Step III: With C as the center and radius 3.0 cm, draw an arc to intersect the arc drawn in Step II at B.

Step IV: With B as the center and radius 3.8 cm, draw an arc on the other side of AC.

Step V: With A as the center and radius 2.3 cm, draw an arc to intersect the arc drawn in Step IV at D.

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

2. Construct a quadrilateral ABCD in which $BC = 7.5$ cm, $AC = AD = 6$ cm, $CD = 5$ cm and $BD = 10$ cm.



Steps of construction:

Step I: Draw $AC = 6$ cm.

Step II: With A as the center and radius 6 cm, draw an arc.

Step III: With C as the center and radius 5 cm, draw an arc to intersect the arc drawn in Step II at D.

Step IV: With D as the center and radius 10 cm, draw an arc on the other side of the line segment AC.

Step V: With C as the center and radius 7.5 cm, draw an arc to intersect the arc drawn in Step IV at B.

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

3. Construct a quadrilateral ABCD, when $AB = 3$ cm, $CD = 3$ cm, $DA = 7.5$ cm, $AC = 8$ cm and $BD = 4$ cm.

If we consider a triangle ABD from the given data, then

$AB = 3$ cm

$BD = 4$ cm

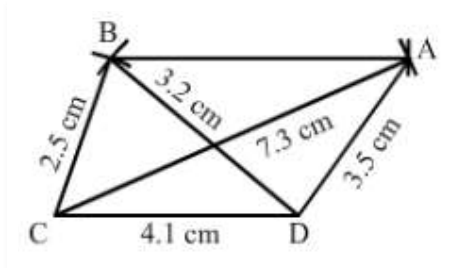
$AD = 7.5$ cm

$AB + BD = 3 + 4 = 7$ cm

However, we know that the sum of the lengths of two sides of a triangle is always greater than the third side.

Therefore, construction is not possible from the given data.

4. Construct a quadrilateral ABCD given $AD = 3.5$ cm, $BC = 2.5$ cm, $CD = 4.1$ cm, $AC = 7.3$ cm and $BD = 3.2$ cm.



Steps of construction:

Step I: Draw $CD = 4.1$ cm.

Step II: With C as the center and radius 7.3 cm, draw an arc.

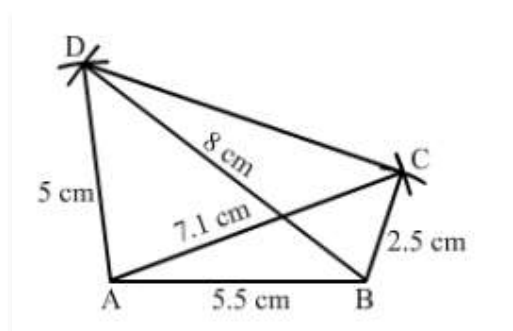
Step III: With D as the center and radius 3.5 cm, draw an arc to intersect the arc drawn in Step II at A.

Step IV: With D as the center and radius 3.2 cm, draw an arc on the other side of AC.

Step V: With C as the center and radius 2.5 cm, draw an arc to intersect the arc drawn in Step IV at B.

Step VI: Join BA, DA, BC and BD and AC to obtain the required quadrilateral.

5. Construct a quadrilateral ABCD given $AD = 5$ cm, $AB = 5.5$ cm, $BC = 2.5$ cm, $AC = 7.1$ cm and $BD = 8$ cm.



Steps of construction:

Step I: Draw $AB = 5.5$ cm.

Step II: With A as the center and radius 7.1 cm, draw an arc.

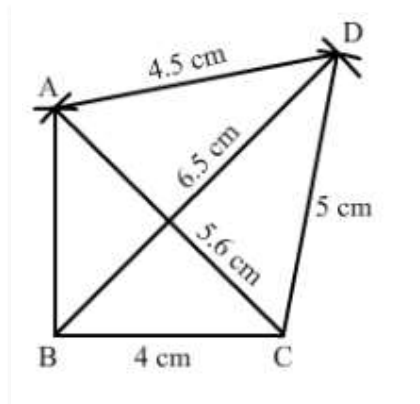
Step III: With B as the center and radius 2.5 cm, draw an arc to intersect the arc drawn in Step II at C.

Step IV: With B as the center and radius 8 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 DA, DB, BC, AC, and CD to obtain the required quadrilateral.

6. Construct a quadrilateral ABCD in which $BC = 4\text{ cm}$, $CA = 5.6\text{ cm}$, $AD = 4.5\text{ cm}$, $CD = 5\text{ cm}$ and $BD = 6.5\text{ cm}$.



Steps of construction:

Step I: Draw $BC = 4\text{ cm}$.

Step II: With B as the center and radius 6.5 cm , draw an arc.

Step III: With C as the center and radius 5 cm , draw an arc to intersect the arc drawn in Step II at D.

Step IV: With C as the center and radius 5.6 cm , draw an arc on the same side

Step V: With D as the center and radius 4.5 cm , draw an arc to intersect the arc drawn in Step IV at A.

Step VI: Join BA, AC, DA, BD, and CD to obtain the required quadrilateral.