RD SHARMA

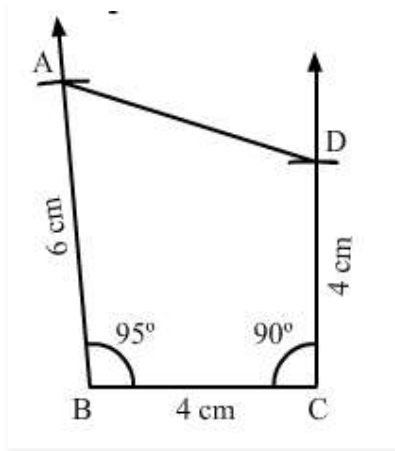## Solutions

Class 8 Maths

Chapter 18

Ex 18.4

1. Construct a quadrilateral ABCD, in which AB = 6 cm, BC = 4 cm, CD = 4 cm, ∠B = 95° and ∠C = 90° .

Steps of construction:

Step I: Draw BC = 4 cm.

Step II: Construct ∠ABC = 95° at B.

Step III: With B as the center and radius 6 cm, cut off BA = 6 cm.
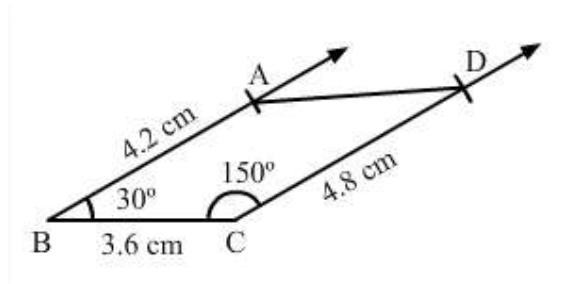
Step IV: Construct ∠BCD = 90° at C.

Step V: With C as the center and radius 4 cm, cut off BA = 4 cm.

Step VI: Join CD.

The quadrilateral so obtained is the required quadrilateral.

2. Construct a quadrilateral ABCD, where AB = 4.2 cm, BC = 3.6 cm, CD = 4.8 cm, ∠B = 30° and ∠C = 150° .

Steps of construction:

Step I: Draw BC = 3.6 cm.

Step II: Construct ∠ABC = 30° at B.
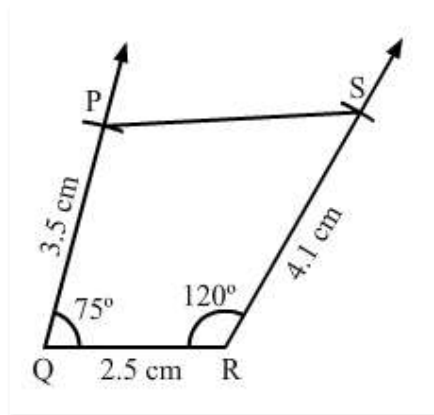
Step III: With B as the center and radius 4.2 cm, cut off BA = 4.2 cm.

Step IV: Construct ∠BCD = 150° at C.

Step V: With C as the center and radius 4.8 cm, cut off CD = 4.8 cm.

Step VI: Join AD.

The quadrilateral so obtained is the required quadrilateral.

3. Construct a quadrilateral PQRS, in which PQ = 3.5 cm, QR = 2.5 cm, RS = 4.1 cm, ∠Q = 75° and ∠R = 120° .

Steps of construction:

Step I: Draw QR = 2.5 cm.

Step II: Construct ∠PQr = 75° at Q.

Step III: With Q as the center and radius 3.5 cm, cut off QP = 3.5 cm.
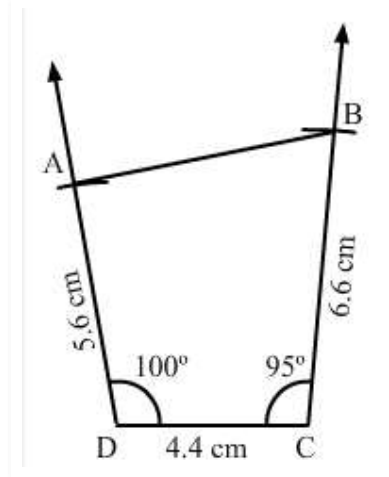
Step IV: Construct ∠QRS = 120° at R.

Step V: With R as the center and radius 4.1 cm, cut off RS = 4.1 cm.

Step VI: Join PS.

The quadrilateral so obtained is the required quadrilateral.

4. Construct a quadrilateral ABCD given BC = 6.6 cm, CD = 4.4 cm, AD = 5.6 cm and ∠D = 100° and ∠C = 95° .

Steps of construction:

Step I: Draw DC = 4.4 cm.

Step II: Construct ∠ADC = 100° at D.

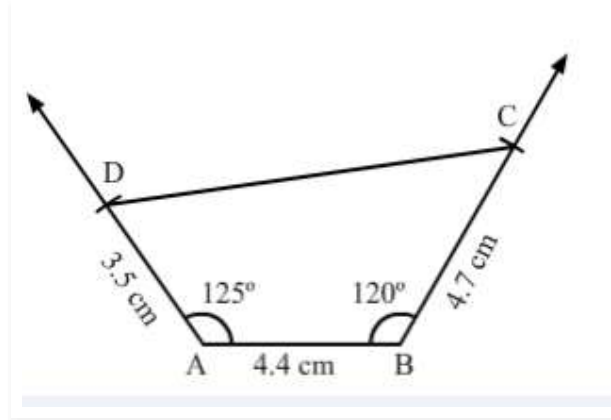Step III: With D as the center and radius 5.6 cm, cut off DA = 5.6 cm.

Step IV: Construct ∠BCD = 95° at C.

Step V: With C as the center and radius 6.6 cm, cut off CB = 6.6 cm.

Step VI: Join AB.

The quadrilateral so obtained is the required quadrilateral.

5. Construct a quadrilateral ABCD, in which AD = 3.5 cm, AB = 4.4 cm, BC = 4.7 cm, ∠A = 125° and ∠B = 120° .

Steps of construction:

Step I: Draw AB = 4.4 cm.

Step II: Construct ∠BAD = $125°$ at A.

Step III: With A as the centre and radius 3.5 cm, cut off AD = 3.5 cm.
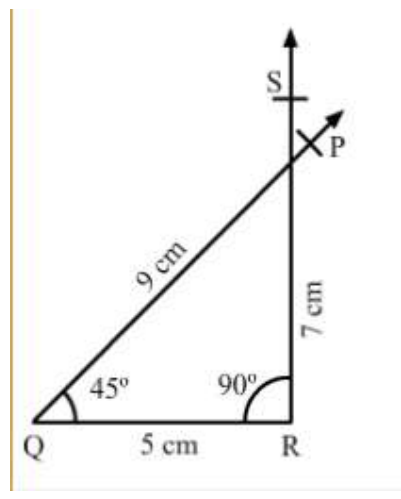
Step IV: Construct ∠ABC = $125°$ at B.

Step V: With B as the centre and radius 4.7 cm, cut off BC = 4.7 cm.

Step VI: Join CD.

The quadrilateral so obtained is the required quadrilateral.

6. Construct a quadrilateral PQRS, in which ∠Q = 45° , ∠R = 70° , QR = 5 cm, PQ = 9 cm and RS = 7 cm.

Steps of construction:

Step I: Draw QR = 5 cm.

Step II: Construct ∠PQR = $45°$ at Q.

Step III: With Q as the center and radius 9 cm, cut off QP = 9 cm.

Step IV: Construct ∠QRS = $90°$ at R.

Step V: With R as the center and radius 7 cm, cut off RS = 7 cm.

Since, the line segment PQ and RS intersect each other, the quadrilateral cannot be constructed.