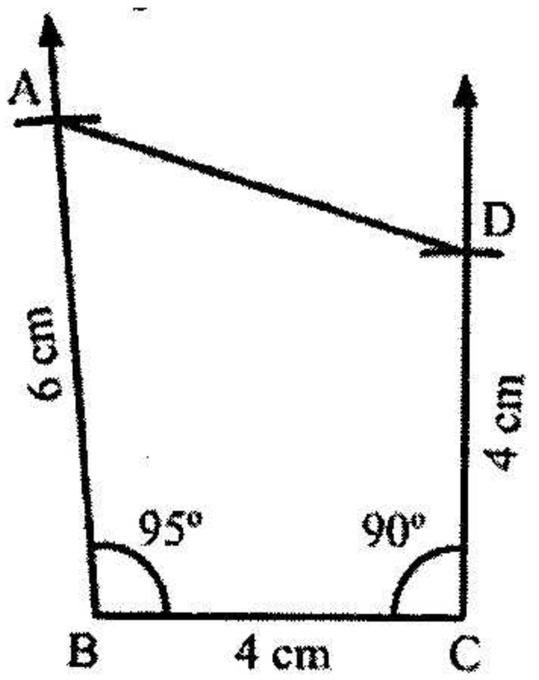
Exercise 18.4

Q.1 Construct a quadrilateral ABCD, In which

$AB = 6$ cm, $BC = 4$ cm, $CD = 4$ cm, $\angle B = 95^\circ$, $\angle C = 90^\circ$

Sol.



Solutions:

Steps of construction:

Step I: Draw $BC = 4$ cm.

Step II: Construct $\angle ABC = 95^\circ$ at B.

Step III: With B as the center and radius 6 cm, cut off $BA = 6$ cm.

Step IV: Construct $\angle BCD = 90^\circ$ at C.

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

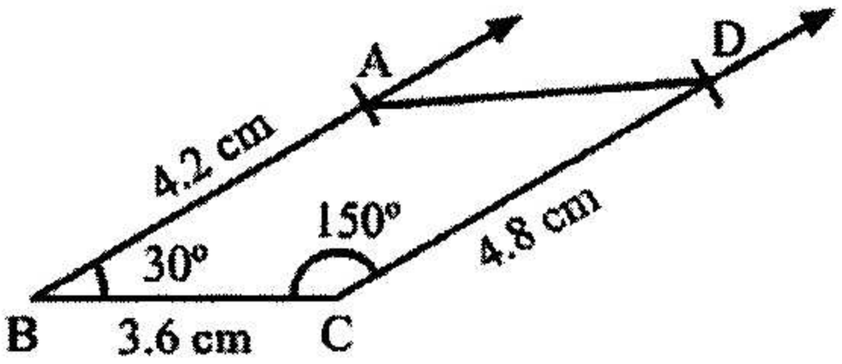
Step VI: Join CD.

The quadrilateral so obtained is the required quadrilateral.

docs.aglasem.com

aglasem.com

Q2 Construct a quadrilateral ABCD, where AB = 4·2 cm
BC = 3·6 cm, CD = 4·8 cm, ∠B = 30°, ∠C = 150°.



Solutions:

Steps of construction:

Step I: Draw $BC = 3.6$ cm.

Step II: Construct $\angle ABC = 30°$ at B.

Step III: With B as the center and radius 4.2 cm, cut off $BA = 4.2$ cm.

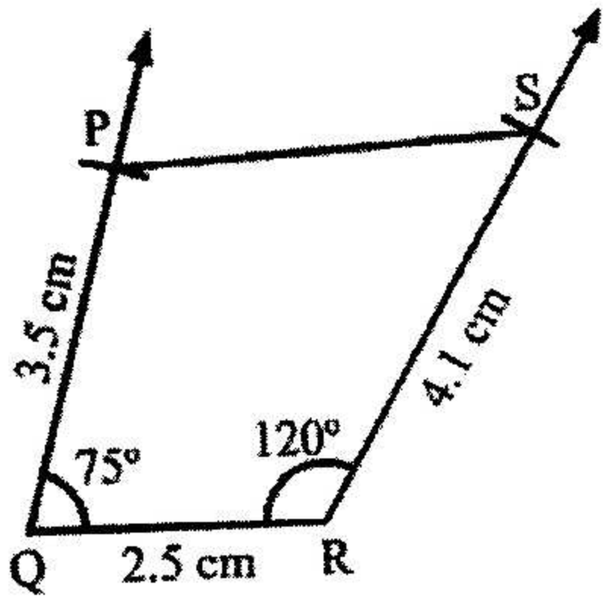
Step IV: Construct $\angle BCD = 150°$ at C.

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.

Q3 Construct a quadrilateral PQRS in which PQ = 3·5 cm
QR = 2·5 cm, RS = 4·1 cm, ∠Q = 75°, ∠R = 120°



docs.aglasem.com

aglasem.com

Solutions:

Steps of construction:

Step I: Draw $QR = 2.5$ cm.

Step II: Construct $\angle PQr = 75°$ at Q.

Step III: With Q as the center and radius 3.5 cm, cut off $QP = 3.5$ cm.

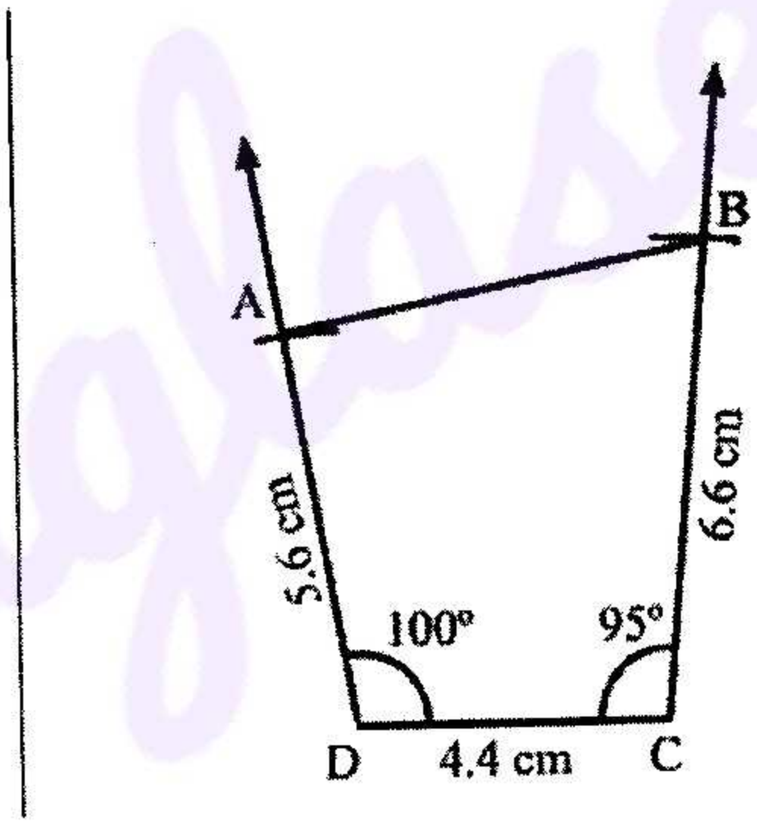
Step IV: Construct $\angle QRS = 120°$ at R.

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.

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



Step I: Draw DC = 4.4 cm.

Step II: Construct $\angle ADC = 100°$ at D.

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

Step IV: Construct $\angle BCD = 95°$ 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.

docs.aglasem.com

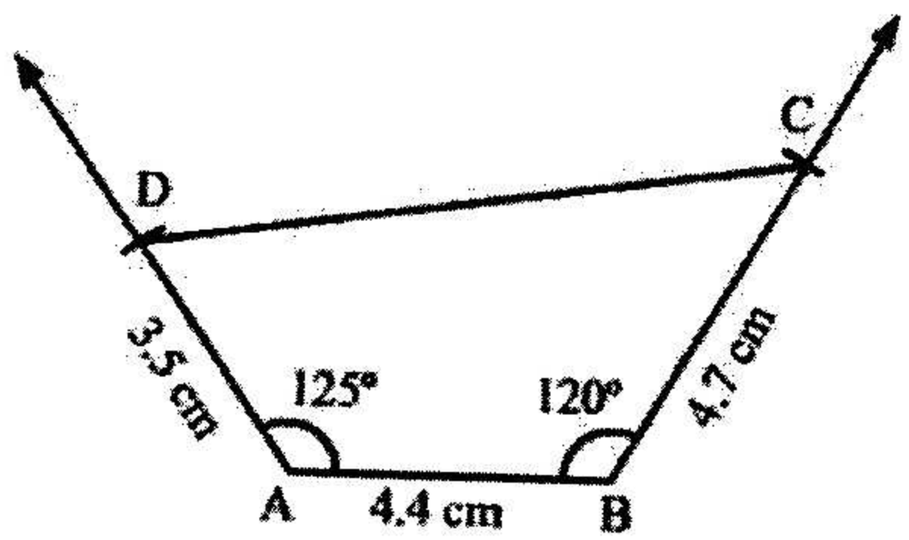
aglasem.com

Q.5 Construct a quadrilateral ABCD, in which

$AD = 3.5$ cm, $AB = 4.4$ cm, $BC = 4.7$ cm, $\angle A = 125^\circ$

and $\angle B = 120^\circ$

Sol:



Solutions:

Steps of construction:

Step I: Draw $AB = 4.4$ cm.

Step II: Construct $\angle BAD = 125^\circ$ at A.

Step III: With A as the centre and radius 3.5 cm, cut off $AD = 3.5$ cm.

Step IV: Construct $\angle ABC = 125^\circ$ at B.

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

Step VI: Join CD.

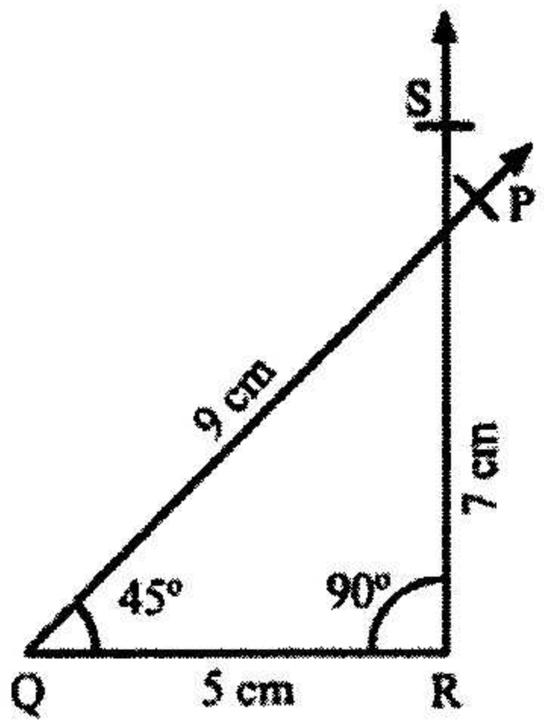
The quadrilateral so obtained is the required quadrilateral.

Q.6 Construct a quadrilateral PQRS, in which $\angle Q = 45^\circ$

$\angle R = 90^\circ$, $QR = 5$ cm, $PQ = 9$ cm, $RS = 7$ cm.

docs.aglasem.com

aglasem.com



Solutions:

Steps of construction:

Step I: Draw $QR = 5$ cm.

Step II: Construct $\angle PQR = 45°$ at Q.

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

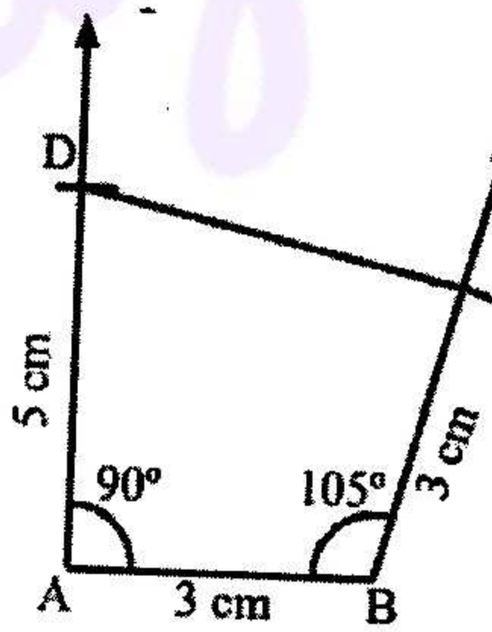
Step IV: Construct $\angle QRS = 90°$ at R.

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.

Q7 Construct a quadrilateral ABCD in which AB=BC = 3 cm, AD = 5 cm, $\angle A = 90°$, and $\angle B = 105°$.

Sol.



docs.aglasem.com

aglasem.com

Solutions:

Steps of construction:

Step I: Draw $AB = 3$ cm.

Step II: Construct $\angle DAB = 90°$ at A.

Step III: With A as the center and radius 5 cm, cut off $AD = 5$ cm.

Step IV: Construct $\angle ABC = 105°$ at B.

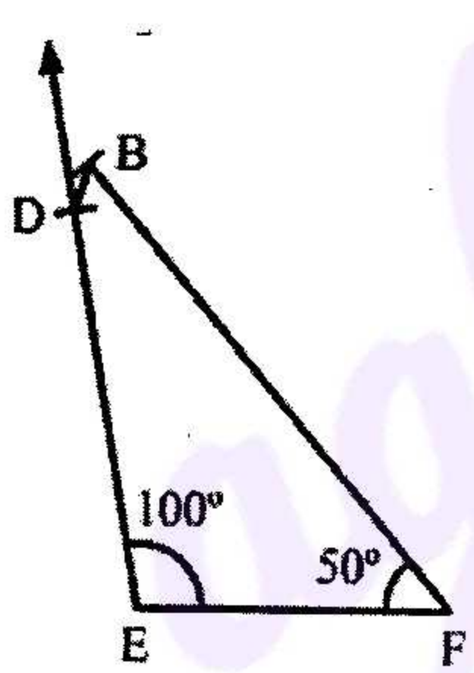
Step V: With B as the center and radius 3 cm, cut off $BC = 3$ cm.

Step VI: Join CD.

The quadrilateral so obtained is the required quadrilateral.

Q8 Construct a quadrilateral BDEF, where DE = 4.5 cm
EF = 3.5 cm, FB = 6.5 cm, ∠F = 50°, ∠E = 100°

Sol:



Solutions:

Steps of construction:

Step I: Draw $EF = 3.5$ cm.

Step II: Construct $\angle DEF = 100°$ at E.

Step III: With E as the center and radius 4.5 cm, cut off $DE = 4.5$ cm.

Step IV: Construct $\angle EFB = 50°$ at F.

Step V: With F as the center and radius 6.5 cm, cut off $FB = 6.5$ cm.

Step VI: Join BD.

docs.aglasem.com

aglasem.com