

1. Let l be a line and P be a point not on l . Through P , draw a line m parallel to l . Now join P to any point Q on l . Choose any other point R on m . Through R , draw a line parallel to PQ . If this line meets l at S , then what shape do the two sets of parallel lines inclose?

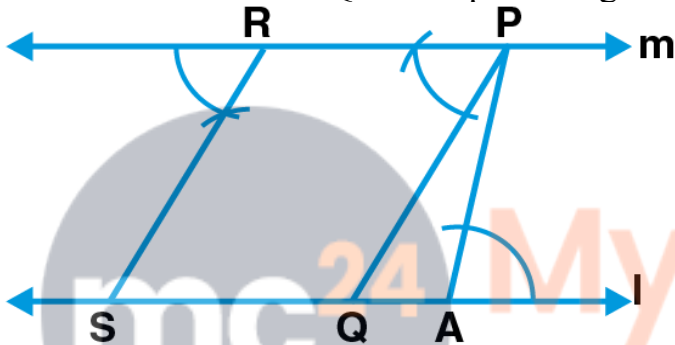
Solution:

Steps of Construction:

- (i) Draw a line l and P be a point not on the line l
- (ii) Take a point A on line l and join PA
- (iii) Draw a line m which is parallel to line l on point P
- (iv) Take a point Q on line l and join PQ
- (v) From a point R on line m , draw a line parallel to PQ which meets l at point S

Here,

We can observe that $PQRS$ is a parallelogram



2. Construct a triangle ABC , given that

- (i) $AB = 5$ cm, $BC = 6$ cm and $AC = 7$ cm
- (ii) $AB = 4.5$ cm, $BC = 5$ cm and $AC = 6$ cm

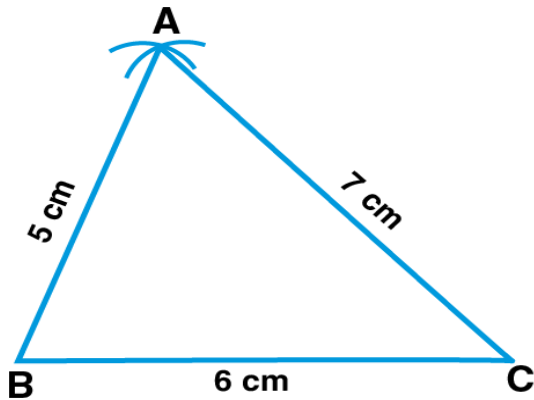
Solution:

(i) Steps of Construction:

1. Draw a line segment BC such that $BC = 6$ cm
2. Taking B as centre and radius 5 cm and taking C as centre and radius 7 cm, draw arcs which intersect each other at point A
3. Now, join AB and AC

Therefore,

$\triangle ABC$ is the required triangle

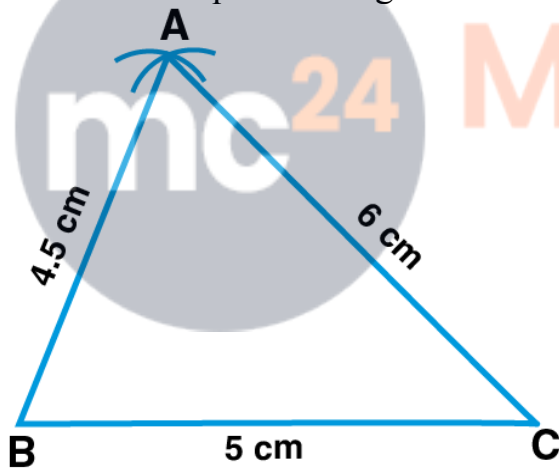


(ii) Steps of Construction:

1. Draw a line segment BC such that $BC = 5$ cm
2. Taking B as centre and radius 4.5 cm and taking C as centre and radius 6 cm, draw arcs which intersect each other at point A
3. Now, join AB and AC

Therefore,

$\triangle ABC$ is the required triangle



3. Construct a triangle PQR given that $PQ = 5.4$ cm, $QR = PR = 4.7$ cm. Name the triangle.

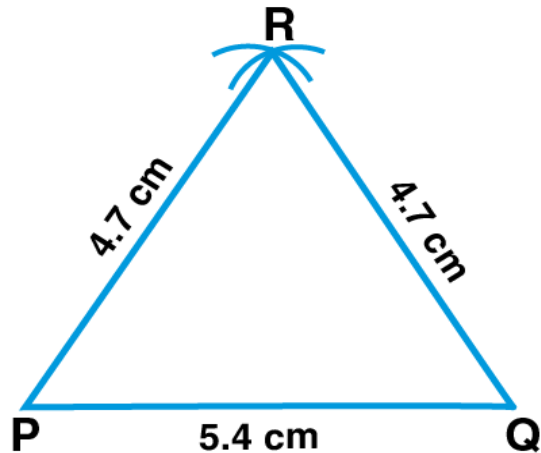
Solution:

Steps of Construction:

1. Draw a line segment PQ of length 5.4 cm
2. Taking P and Q as centres and radius 4.7 cm, draw two arcs intersecting each other at point R
3. Join PR and QR

Here, the two sides are equal of length 4.7 cm

Hence, the required $\triangle RPQ$ is an isosceles triangle



4. Construct a triangle LMN such that the length of each side is 5.4 cm. Name the triangle.

Solution:

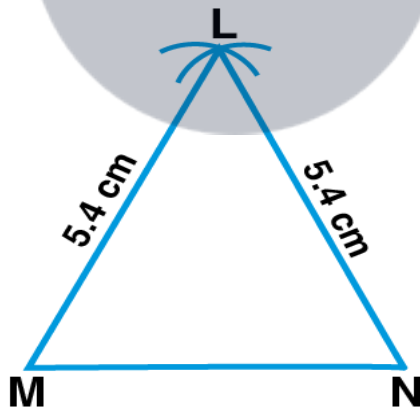
Steps of Construction:

1. Draw a line segment MN such that $MN = 5.4$ cm
2. Taking M and N as centres and radius 5.4 cm, draw two arcs intersecting each other at point L

Here, we can observe that all the sides of triangle = 5.4 cm

Therefore,

The required $\triangle LMN$ is an equilateral triangle



5. Construct a triangle ABC such that $AB = 2.5$ cm, $BC = 6$ cm and $AC = 6.5$ cm.

Measure $\angle ABC$ and name the triangle

Solution:

Steps of Construction:

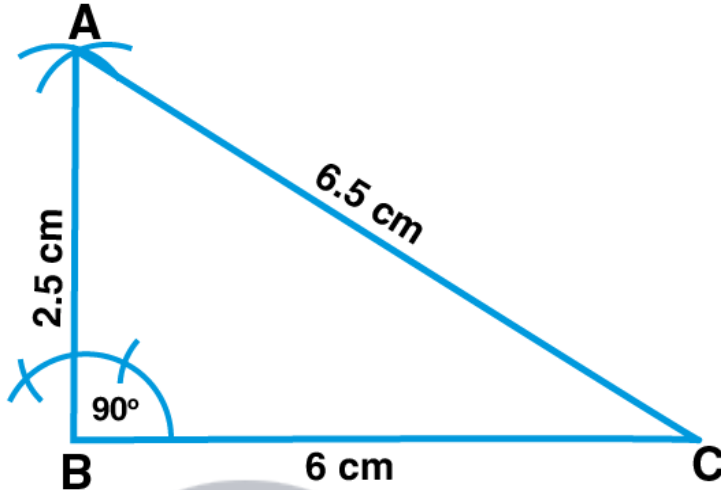
1. Draw a line segment such that $BC = 6$ cm
2. Taking B as centre and radius 2.5 cm and taking C as centre and radius 6.5 cm, draw two arcs intersecting each other at point A

3. Join AB and AC

Now, the $\triangle ABC$ is the required triangle

On measuring, we get, $\angle ABC = 90^\circ$

Hence, $\triangle ABC$ is a right angled triangle



6. Construct a triangle PQR, given that $PQ = 3$ cm, $QR = 5.5$ cm and $\angle PQR = 60^\circ$

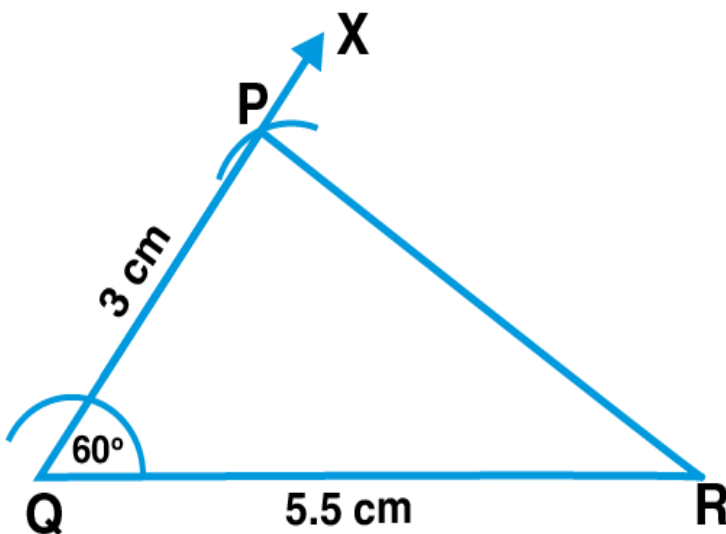
Solution:

Steps of Construction:

1. Draw a line segment QR of length 5.5 cm
2. Taking Q as centre, draw a ray QX making an angle of 60°
3. Now, cut off $PQ = 3$ cm
4. Join PR

Therefore,

$\triangle PQR$ is the required triangle



7. Construct $\triangle DEF$ such that $DE = 5$ cm, $DF = 3$ cm and $\angle EDF = 90^\circ$

Solution:

Steps of Construction:

1. Draw a line segment DE of length 5 cm
2. Taking D as centre, draw a ray DX making an angle of 90°
3. Now, cut off $DF = 3$ cm
4. Join FE

$\triangle FDE$ is the required triangle

