

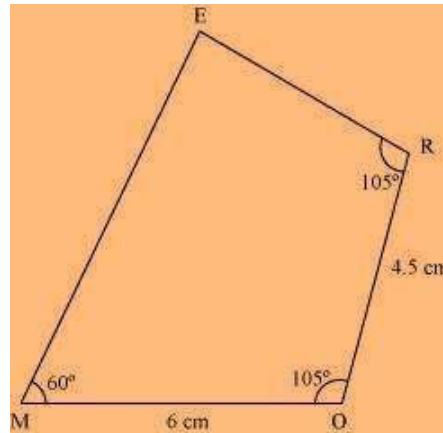
Exercise 4.3

1. Construct the following quadrilaterals.

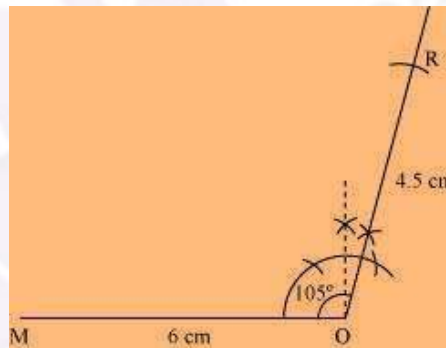
- (i) Quadrilateral MORE
- MO = 6 cm
- OR = 4.5 cm
- $\angle M = 60^\circ$
- $\angle O = 105^\circ$
- $\angle R = 105^\circ$

Solution:

Rough Figure:

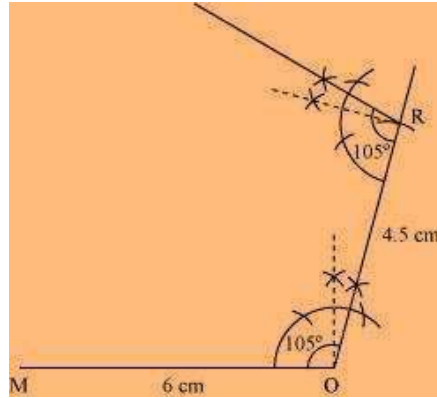


(1) Draw a line segment MO of 6 cm and an angle of 105° at point O. As vertex R is 4.5 cm away from the vertex O, cut a line segment OR of 4.5 cm from this ray.

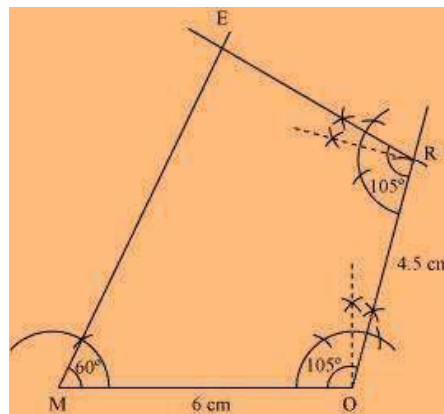


(2) Again, draw an angle of 105° at point R.

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(3) Draw an angle of 60° at point M. Let this ray meet the previously drawn ray from R at point E.



MORE is the required quadrilateral.

(ii) Quadrilateral

PLAN PL = 4 cm

LA = 6.5 cm

$\angle P = 90^\circ$

$\angle A = 110^\circ$

$\angle N = 85^\circ$

Solution:

The sum of the angles of a quadrilateral is 360° .
In quadrilateral PLAN,

$$\angle P + \angle L + \angle A + \angle N = 360^\circ$$

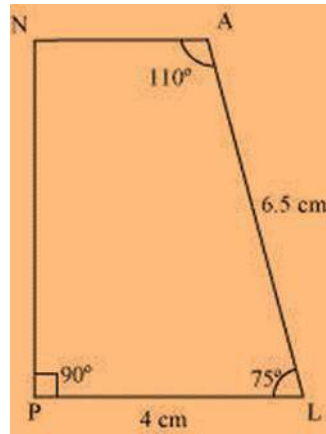
$$90^\circ + \angle L + 110^\circ + 85^\circ = 360^\circ$$

$$285^\circ + \angle L = 360^\circ$$

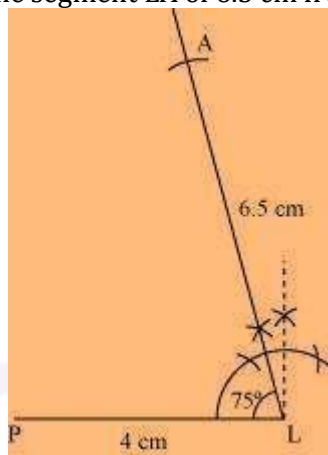
$$\angle L = 360^\circ - 285^\circ = 75^\circ$$

Rough Figure:

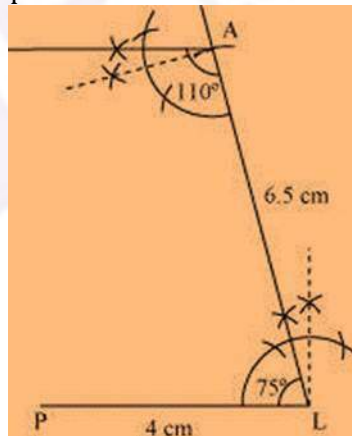
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(1) Draw a line segment PL of 4 cm and draw an angle of 75° at point L. As vertex A is 6.5 cm away from vertex L, cut a line segment LA of 6.5 cm from this ray.

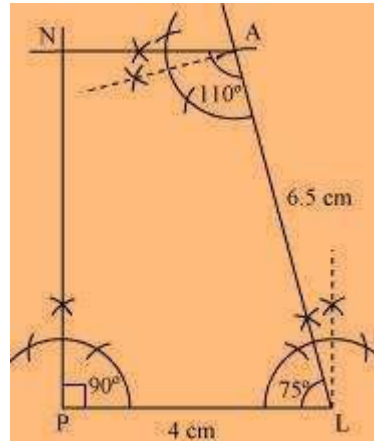


(2) Again draw an angle of 110° at point A.



(3) Draw an angle of 90° at point P. This ray will meet the previously drawn ray from A at point N.

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PLAN is the required quadrilateral.

(iii) Parallelogram

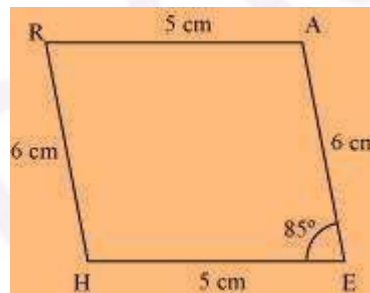
HEAR HE = 5 cm

EA = 6 cm

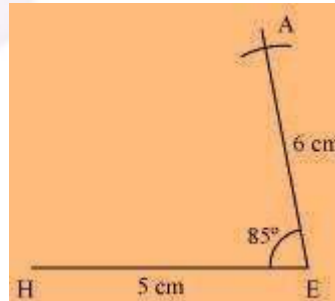
$\angle R = 85^\circ$

Solution:

Rough Figure:

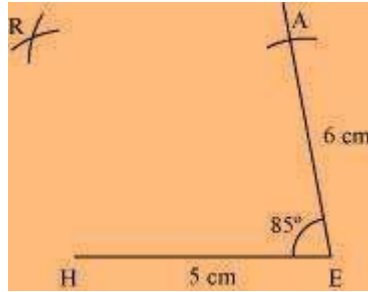


(1) Draw a line segment HE of 5 cm and an angle of 85° at point E. As vertex A is 6 cm away from vertex E, cut a line segment EA of 6 cm from this ray.

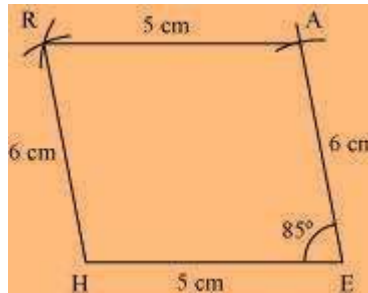


(2) Vertex R is 6 cm and 5 cm away from vertex H and A respectively. By taking radius as 6 cm and 5 cm, draw arcs from point H and A respectively. These will be intersecting each other at point R.

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(3) Join R to H and A.



HEAR is the required quadrilateral.

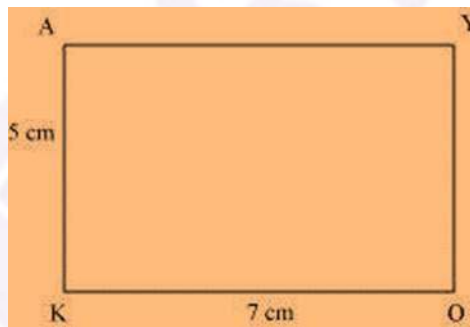
(iv) Rectangle OKAY

OK = 7 cm

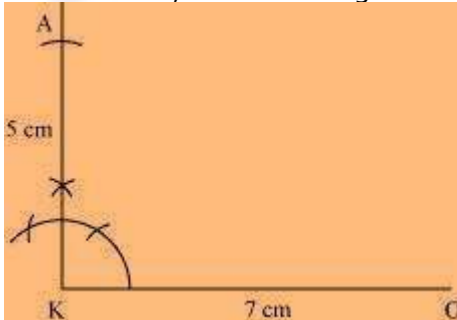
KA = 5 cm

Solution:

Rough Figure:



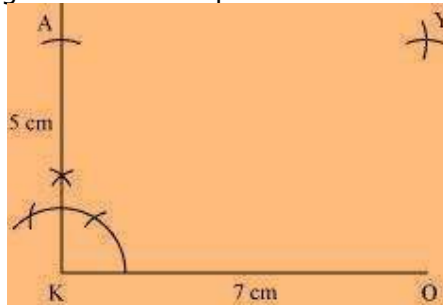
(1) Draw a line segment OK of 7 cm and an angle of 90° at point K. As vertex A is 5 cm away from vertex K, cut a line segment KA of 5 cm from this ray.



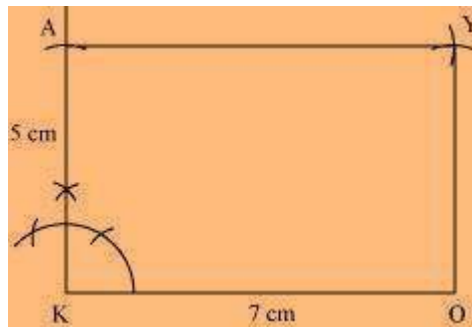
(2) Vertex Y is 5 cm and 7 cm away from vertex O and A respectively. By taking

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radius as 5 cm and 7 cm, draw arcs from point O and A respectively. These will be intersecting each other at point Y.



(3) Join Y to A and O.



OKAY is the required quadrilateral.