

## CLASS NOTES-ANSWERS

### EXERCISE 4.3

1. Construct the following quadrilaterals.

(i) Quadrilateral MORE

$$MO = 6 \text{ cm}$$

$$OR = 4.5 \text{ cm}$$

$$\angle M = 60^\circ$$

$$\angle O = 105^\circ$$

$$\angle R = 105^\circ$$

(ii) Quadrilateral PLAN

$$PL = 4 \text{ cm}$$

$$LA = 6.5 \text{ cm}$$

$$\angle P = 90^\circ$$

$$\angle A = 110^\circ$$

$$\angle N = 85^\circ$$

(iii) Parallelogram HEAR

$$HE = 5 \text{ cm}$$

$$EA = 6 \text{ cm}$$

$$\angle R = 85^\circ$$

(iv) Rectangle OKAY

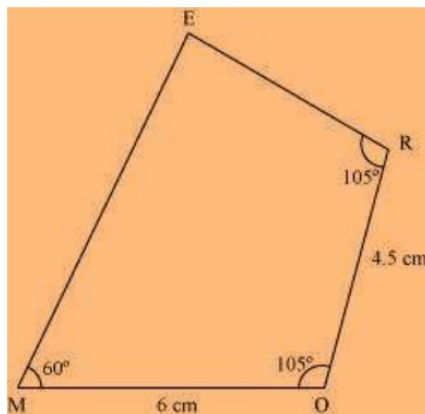
$$OK = 7 \text{ cm}$$

$$KA = 5 \text{ cm}$$



Answer:

(i) Rough Sketch:



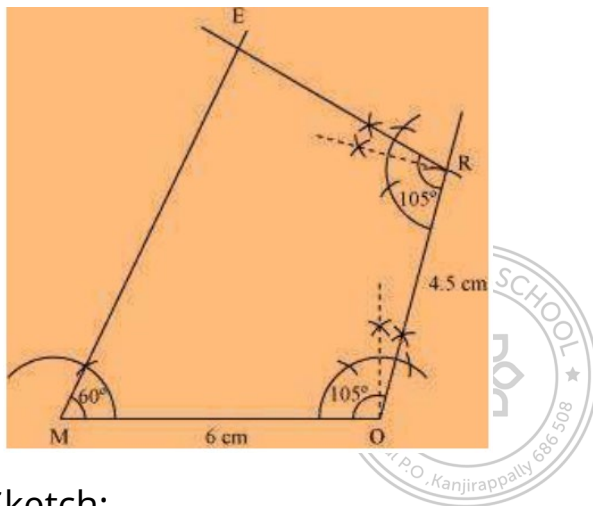
Steps of construction:

- Draw a line segment MO of 6 cm and an angle of  $105^\circ$  at point O. As

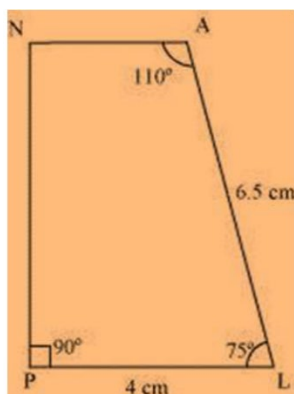


vertex R is 4.5 cm away from the vertex O, cut a line segment OR of 4.5 cm from this ray.

- Again, draw an angle of  $105^\circ$  at point R.
- Draw an angle of  $60^\circ$  at point M. Let this ray meet the previously drawn ray from R at point E.
- MORE is the required quadrilateral.



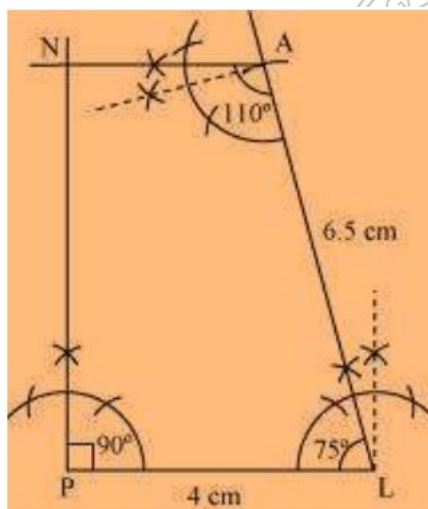
(ii) Rough Sketch:



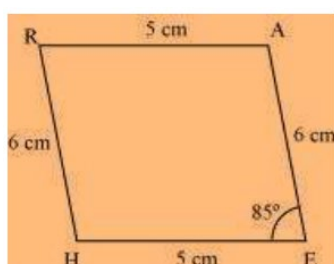
Steps of construction:

- The sum of the angles of a quadrilateral is  $360^\circ$ . In quadrilateral PLAN,
- $\angle P + \angle L + \angle A + \angle N = 360^\circ$   
 $90^\circ + \angle L + 110^\circ + 85^\circ = 360^\circ$

- $285^\circ + \angle L = 360^\circ$
- $\angle L = 360^\circ - 285^\circ = 75^\circ$
- Draw a line segment PL of 4 cm and draw an angle of  $75^\circ$  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.
- Again, draw an angle of  $110^\circ$  at point A.
- Draw an angle of  $90^\circ$  at point P. This ray will meet the previously drawn ray from A at point N.
- PLAN is the required quadrilateral.

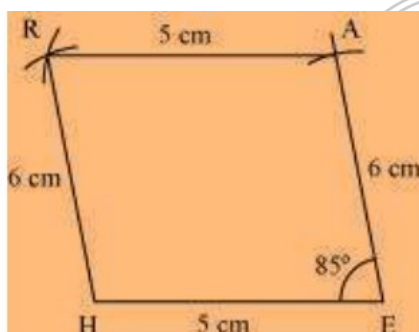
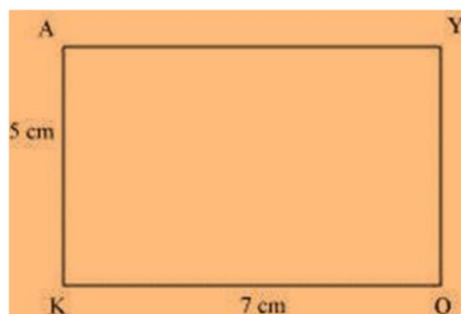


(iii) Rough Sketch:



Steps of construction:

- Draw a line segment HE of 5 cm and an angle of  $85^\circ$  at point E. As vertex A is 6 cm away from vertex E, cut a line segment EA of 6 cm from this ray.
- Vertex R is 6 cm and 5 cm away from vertex H and A, respectively. By taking radii as 6 cm and 5 cm, draw arcs from points H and A, respectively. These will intersect each other at point R.
- Join R to H and A.
- HEAR is the required quadrilateral.

(iv) Rough Sketch:Steps of construction:

- Draw a line segment OK of 7 cm and an angle of  $90^\circ$  at point K. As



vertex A is 5 cm away from vertex K, cut a line segment KA of 5 cm from this ray.

- Vertex Y is 5 cm and 7 cm away from vertex O and A, respectively. By taking
- radii as 5 cm and 7 cm, draw arcs from points O and A, respectively. These will intersect each other at point Y.
- Join Y to A and O.
- OKAY is the required quadrilateral.

