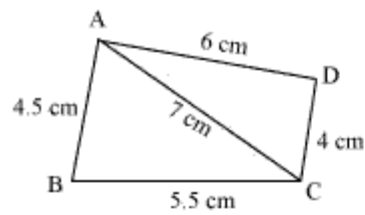


## *NCERT Solutions for Class 8 Maths Chapter 4 - Practical Geometry*

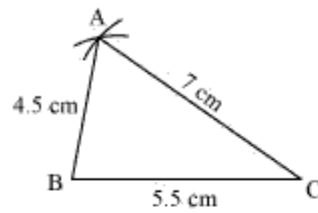
Chapter 4 - Practical Geometry Exercise Ex. 4.1

Solution 1

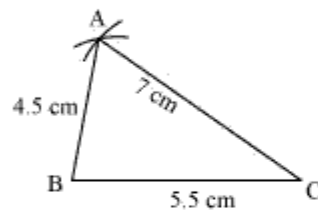
(i) Firstly, a rough sketch of this quadrilateral can be drawn as follows.



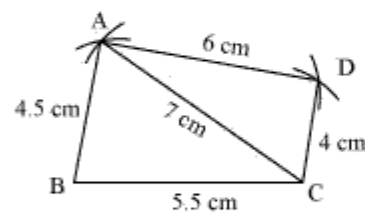
(1)  $\triangle ABC$  can be constructed by using the given measurements as follows.



(2) Vertex D is 6 cm away from vertex A. Therefore, while taking A as centre, draw an arc of radius 6 cm.

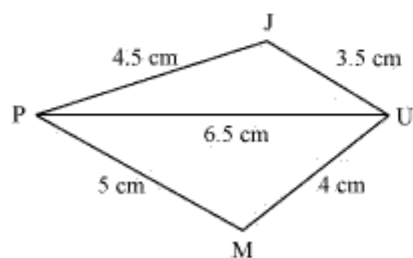


(3) Taking C as centre, draw an arc of radius 4 cm, cutting the previous arc at point D. Join D to A and C.

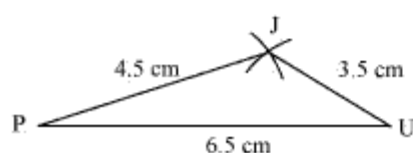


ABCD is the required quadrilateral.

(ii) Firstly, a rough sketch of this quadrilateral can be drawn as follows.



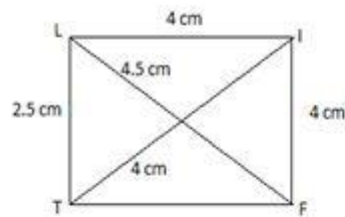
(1)  $\triangle JUP$  can be constructed by using the given measurements as follows.



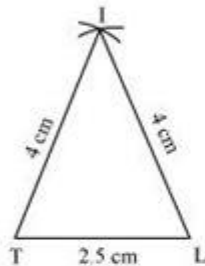
Chapter 4 - Practical Geometry Exercise Ex. 4.2

Solution 1

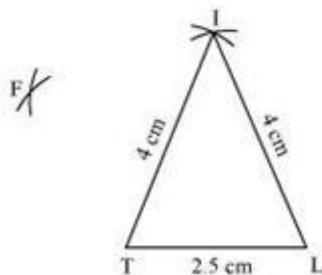
(i) A rough sketch of this quadrilateral can be drawn as follows:



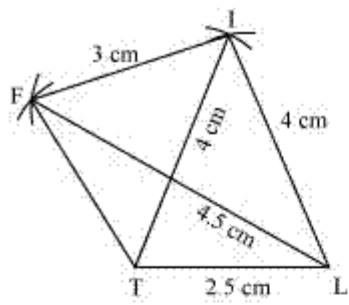
(1)  $\triangle ITL$  can be constructed by using the given measurements as follows.



(2) Vertex F is 4.5 cm away from vertex L and 3 cm away from vertex I. Therefore, while taking L and I as centres, draw arcs of 4.5 cm radius and 3 cm radius respectively, which will be intersecting each other at point F.

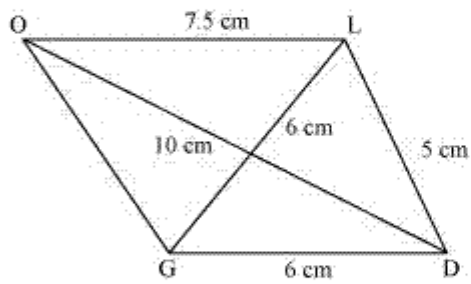


(3) Join F to T and F to I.

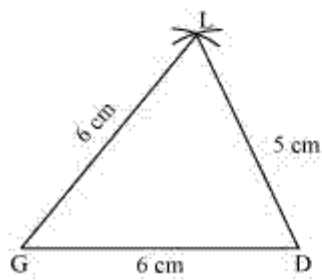


LIFT is the required quadrilateral.

(ii) A rough sketch of this quadrilateral can be drawn as follows.

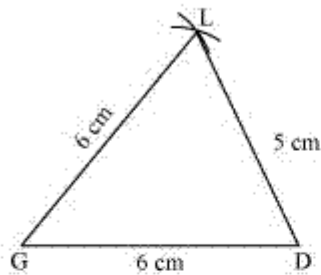


(1)  $\triangle GDL$  can be constructed by using the given measurements as follows.

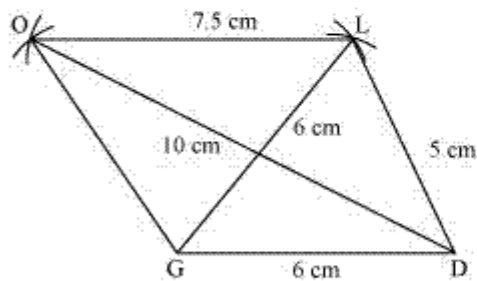


(2) Vertex O is 10 cm away from vertex D and 7.5 cm away from vertex L. Therefore, while taking D and L as centres, draw arcs of 10 cm radius and 7.5 cm radius respectively. These will intersect each other at point O.

*o/*



(3) Join O to G and L.

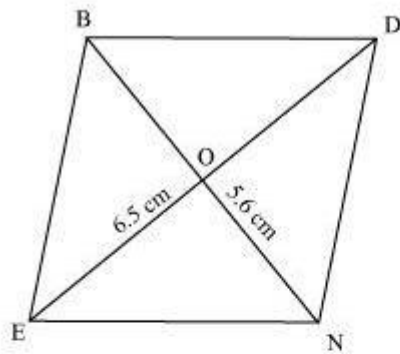


GOLD is the required quadrilateral.

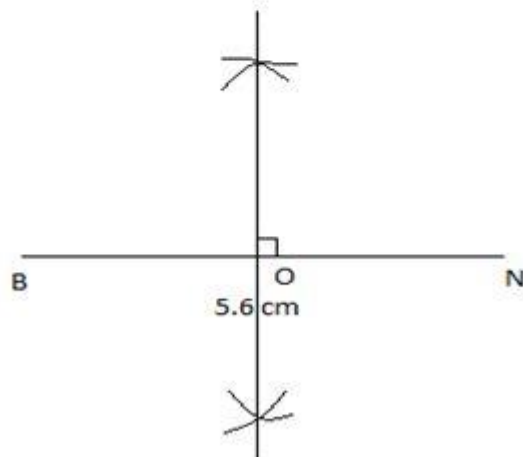
(iii) We know that the diagonals of a rhombus always bisect each other at  $90^\circ$ . Let us assume that these are intersecting each other at point O in this rhombus.

Hence,  $EO = OD = 3.25 \text{ cm}$

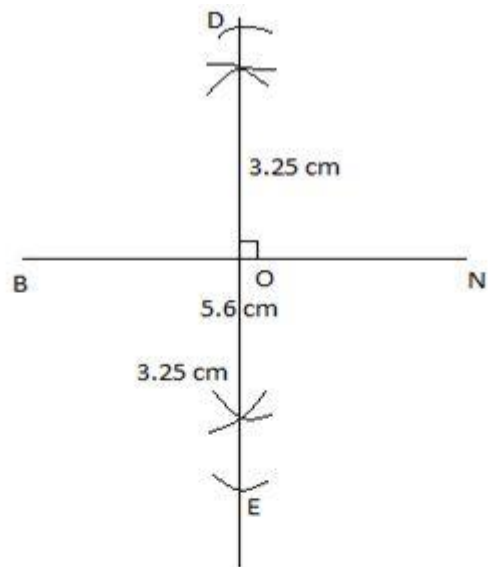
A rough sketch of this rhombus can be drawn as follows.



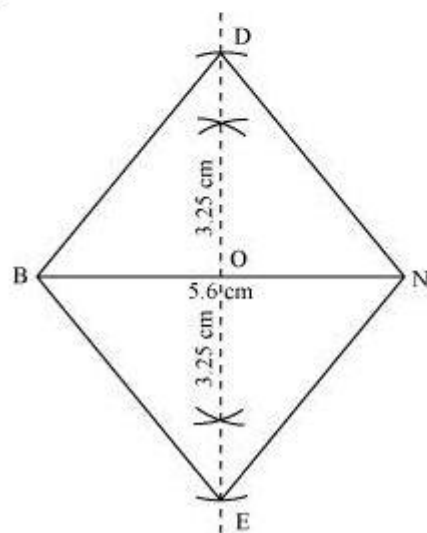
(1) Draw a line segment BN of 5.6 cm and also draw its perpendicular bisector. Let it intersect the line segment BN at point O.



(2) Taking O as centre, draw arcs of 3.25 cm radius to intersect the perpendicular bisector at point D and E.



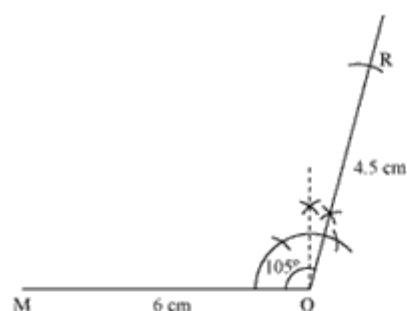
(3) Join points D and E to points B and N.



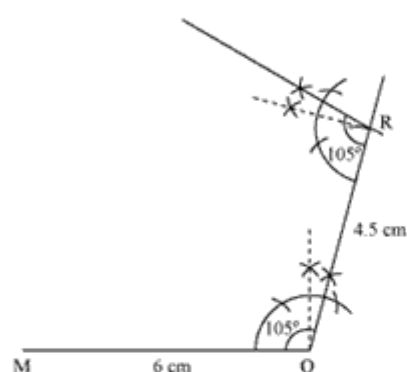
BEND is the required quadrilateral.

(i)

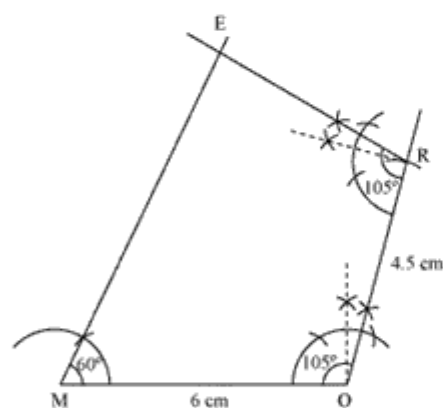
- (1) Draw a line segment MO of 6 cm and an angle of  $105^\circ$  at point O. As vertex R is 4.5 cm away from the vertex O, cut a line segment OR of 4.5 cm from this ray.



- (2) Again, draw an angle of  $105^\circ$  at point R.



- (3) 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)

- (1) The sum of the angles of a quadrilateral is  $360^\circ$ .

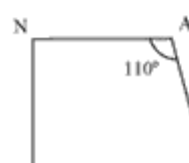
In quadrilateral PLAN,  $\angle P + \angle L + \angle A + \angle N = 360^\circ$

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

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

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

- (2) A rough sketch of this quadrilateral is as follows.

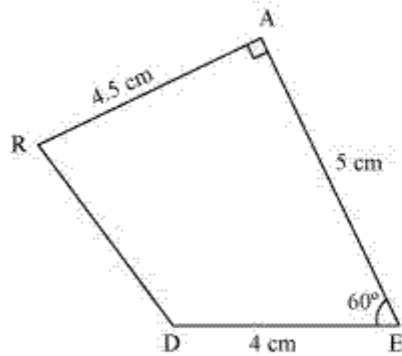




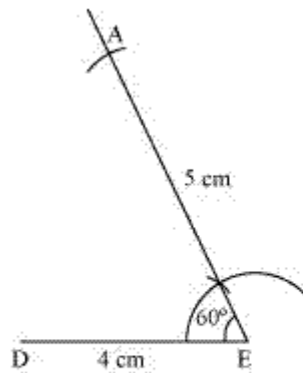
Chapter 4 - Practical Geometry Exercise Ex. 4.4

Solution 1

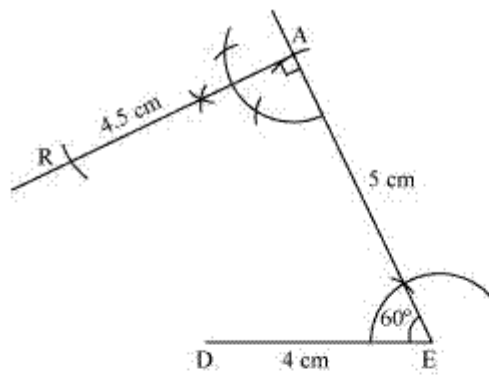
(1) A rough sketch of this quadrilateral can be drawn as follows.



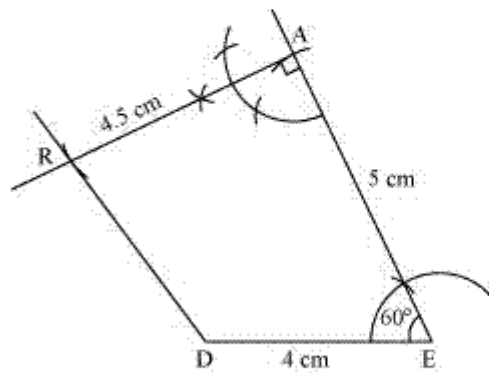
(2) Draw a line segment DE of 4 cm and an angle of  $60^\circ$  at point E. As vertex A is 5 cm away from vertex E, cut a line segment EA of 5 cm from this ray.



(3) Again draw an angle of  $90^\circ$  at point A. As vertex R is 4.5 cm away from vertex A, cut a line segment RA of 4.5 cm from this ray.



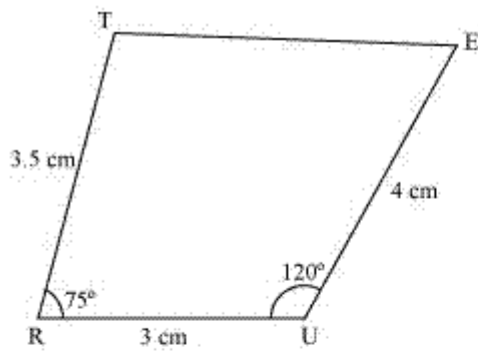
(4) Join D to R.



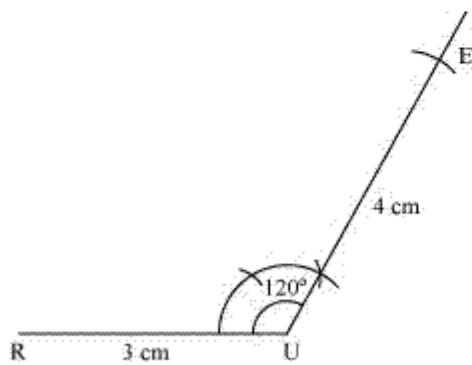
DEAR is the required quadrilateral.

(ii)

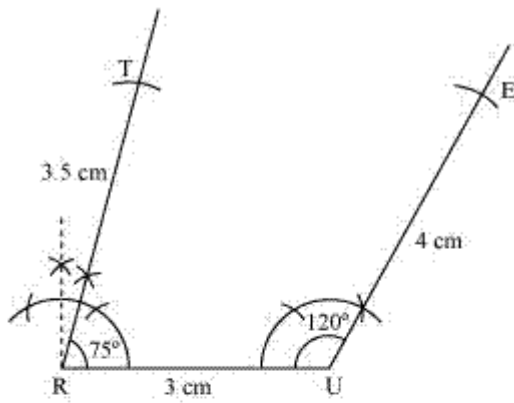
(1) A rough sketch of this quadrilateral can be drawn as follows.



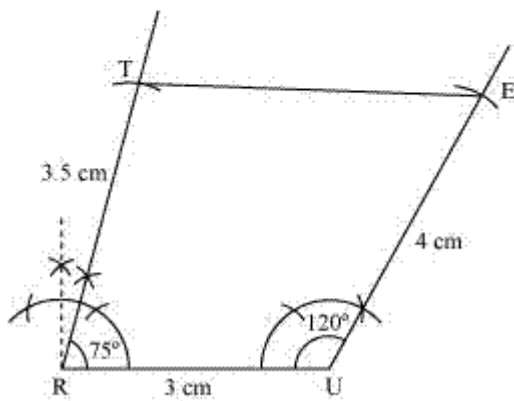
(2) Draw a line segment  $RU$  of  $3\text{ cm}$  and an angle of  $120^\circ$  at point  $U$ . As vertex  $E$  is  $4\text{ cm}$  away from vertex  $U$ , cut a line segment  $UE$  of  $4\text{ cm}$  from this ray.



(3) Next, draw an angle of  $75^\circ$  at point  $R$ . As vertex  $T$  is  $3.5\text{ cm}$  away from vertex  $R$ , cut a line segment  $RT$  of  $3.5\text{ cm}$  from this ray.



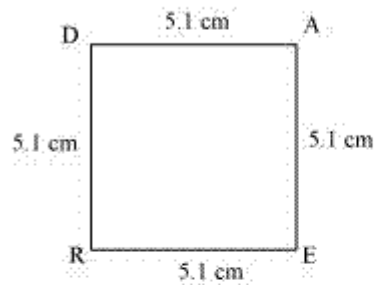
(4) Join T to E.



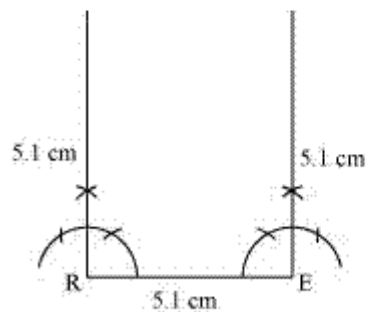
TRUE is the required quadrilateral.

All the sides of a square are of the same measure and also all the interior angles of a square are of  $90^\circ$  measure. Therefore, the given square READ can be drawn as follows.

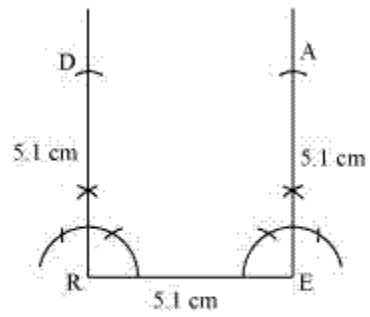
(1) A rough sketch of this square READ can be drawn as follows.



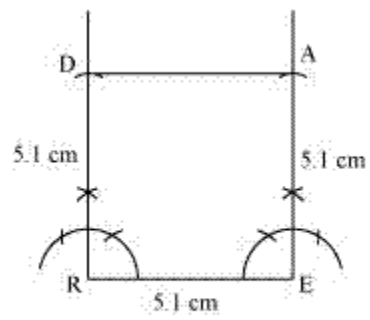
(2) Draw a line segment RE of 5.1 cm and an angle of  $90^\circ$  at point R and E.



(3) As vertex A and D are 5.1 cm away from vertex E and R respectively, cut line segments EA and RD, each of 5.1 cm from these rays.



(4) Join D to A.

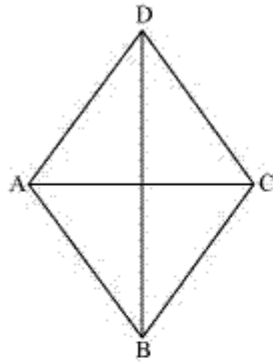


READ is the required square.

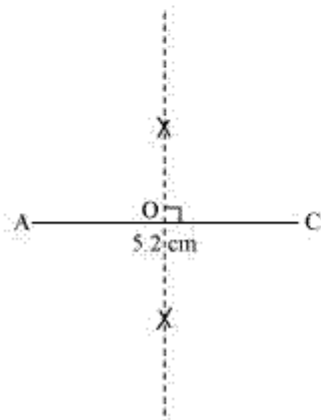
Solution 2

In a rhombus, diagonals bisect each other at  $90^\circ$ . Therefore, the given rhombus ABCD can be drawn as follows.

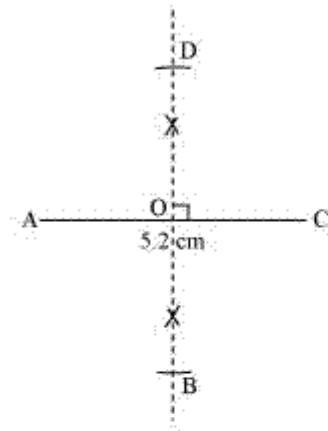
(1) A rough sketch of this rhombus ABCD is as follows.



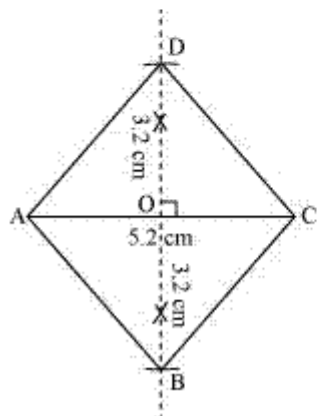
(2) Draw a line segment AC of 5.2 cm and draw its perpendicular bisector. Let it intersect the line segment AC at point O.



(3) Draw arcs of  $\frac{6.4 \text{ cm}}{2} = 3.2 \text{ cm}$  on both sides of this perpendicular bisector. Let the arcs intersect the perpendicular bisector at point B and D.



(4) Join points B and D with points A and C.

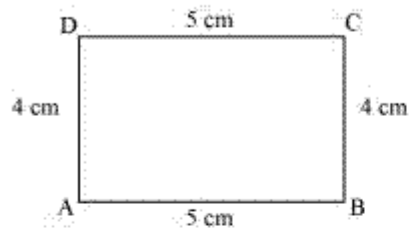


ABCD is the required rhombus.

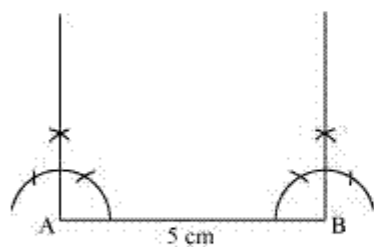


Opposite sides of a rectangle have their lengths of same measure and also, all the interior angles of a rectangle are of  $90^\circ$  measure. The given rectangle ABCD may be drawn as follows.

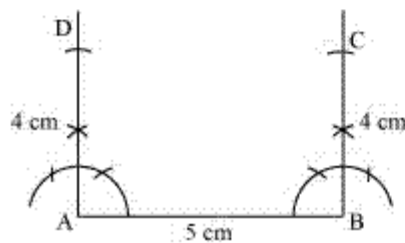
(1) A rough sketch of this rectangle ABCD can be drawn as follows.



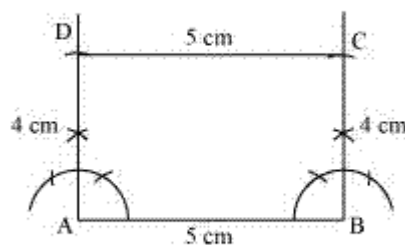
(2) Draw a line segment AB of 5 cm and an angle of  $90^\circ$  at point A and B.



(3) As vertex C and D are 4 cm away from vertex B and A respectively, cut line segments AD and BC, each of 4 cm, from these rays.



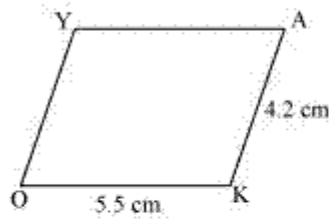
(4) Join D to C.



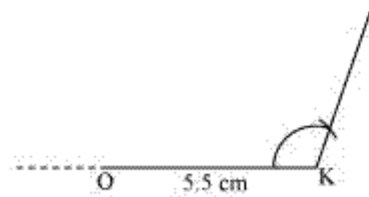
ABCD is the required rectangle.

Opposite sides of a parallelogram are equal and parallel to each other. The given parallelogram OKAY can be drawn as follows.

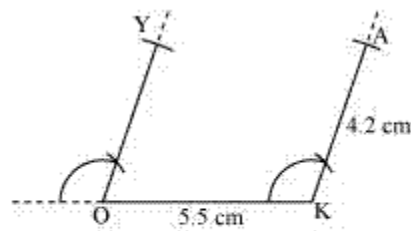
(1) A rough sketch of this parallelogram OKAY is drawn as follows.



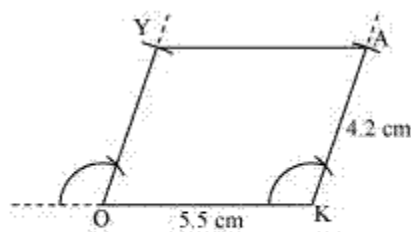
(2) Draw a line segment OK of 5.5 cm and a ray at point K at a convenient angle.



(3) Draw a ray at point O parallel to the ray at K. As the vertices, A and Y, are 4.2 cm away from the vertices K and O respectively, cut line segments KA and OY, each of 4.2 cm, from these rays.



(4) Join Y to A.



OKAY is the required rectangle.