

Practical Geometry - Exercise 4.2

Q.1 Construct the following quadrilaterals.

(i) Quadrilateral LIFT

LI = 4 cm

IF = 3 cm

TL = 2.5 cm

LF = 4.5 cm

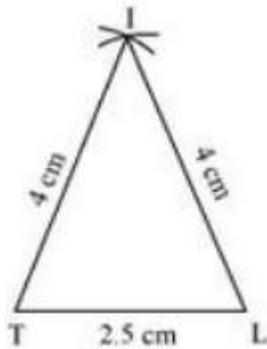
IT = 4 cm

Sol. Steps for Construction:

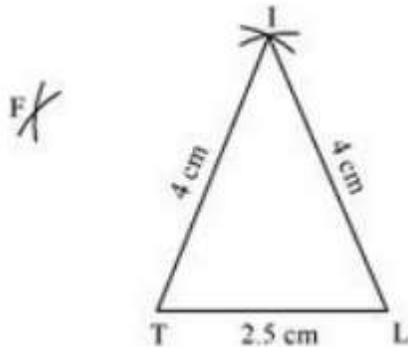
Step 1: Firstly, draw a line segment $TL = 2.5$ cm with help of pencil and ruler.

Step 2: Take points T and L as centres and marks the arcs of radius 4 cm on same side of the line segment TL. Both the arcs intersect each other at point I.

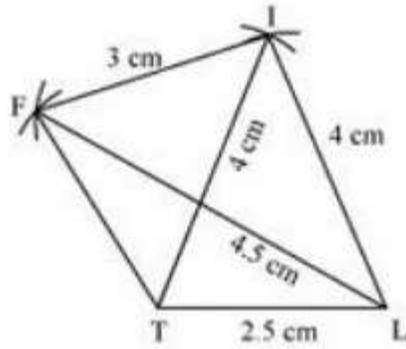
Step 3: Join TI and IL.



Step 4: Now take L as centre and mark an arc of radius 4.5 cm on the opposite side of point L. And mark another arc of radius 3 cm by taking I as centre. Both the arcs intersect each other at point F.



Step 5: Now, join IF and TF.



Thus LIFT is the required quadrilateral.

(ii) Quadrilateral GOLD

OL = 7.5 cm

GL = 6 cm

GD = 6 cm

LD = 5 cm

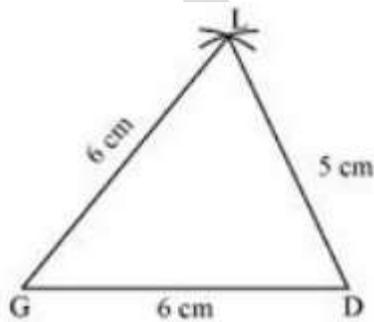
OD = 10 cm

Sol. Steps for Construction:

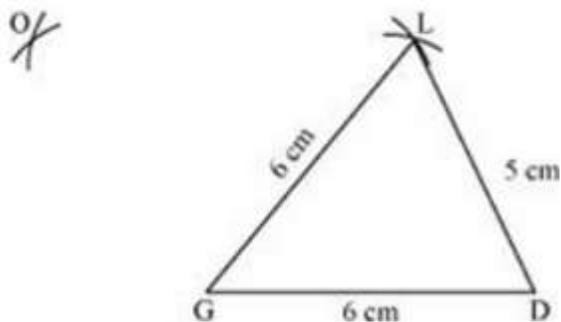
Step 1: Firstly, draw the line segment $GD = 6$ cm with help of pencil and ruler.

Step 2: Take the points G and D as centres and mark the two arcs of radii 6 cm and 5 cm respectively. Both the arcs intersect each other at point L.

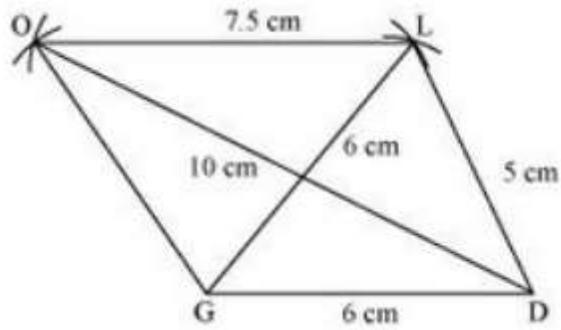
Step 3: Now, join GL and DL.



Step 4: Again take the points D and L as centres and draw the two arcs of radii 10 cm and 7.5 cm respectively on the opposite side of point D. Both the arcs intersect each other at point O.



Step 5: Now join GO and LO.



Thus, GOLD is the required quadrilateral.

(iii) Rhombus BEND

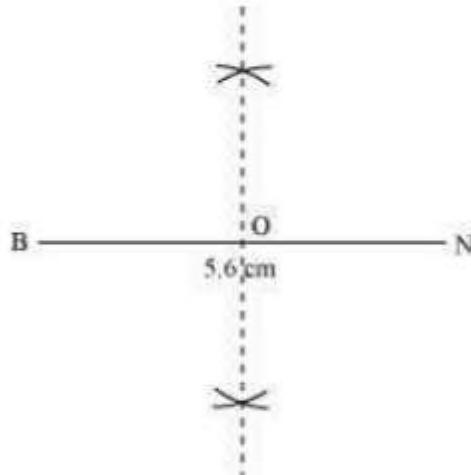
BN = 5.6 cm

DE = 6.5 cm

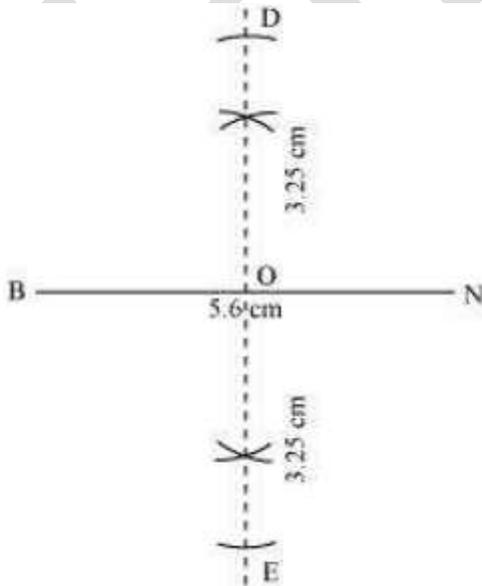
Sol. Steps for Construction:

Step 1: Firstly, draw a line segment BN = 6.5 cm with help of pencil and ruler.

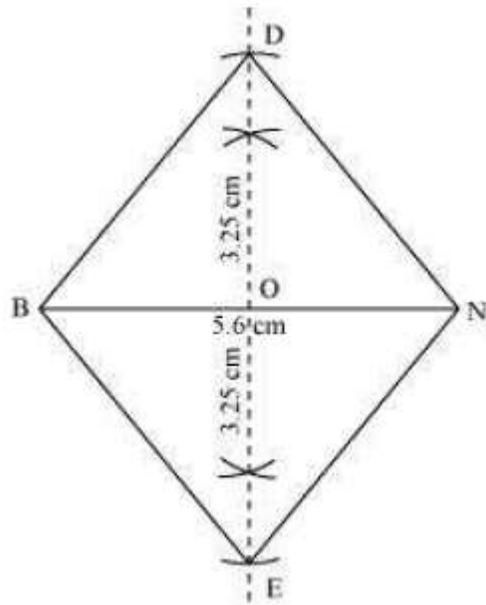
Step 2: Now, draw perpendicular bisectors of BN with the intersection point as O with help of compass.



Step 3: Take point O as centre and mark the arcs of radius 3.25 cm on both side of line segment which intersects the perpendicular bisector at point D and E.



Step 4: Now, join BD, DN, NE and BE.



Thus, BEND is the required rhombus.

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