

Practical Geometry

CHAPTER

4

To construct a quadrilateral when two diagonals and three sides are given (DDSSS) case:

First, construct triangle using SSS case and then complete the quadrilateral.

Example:

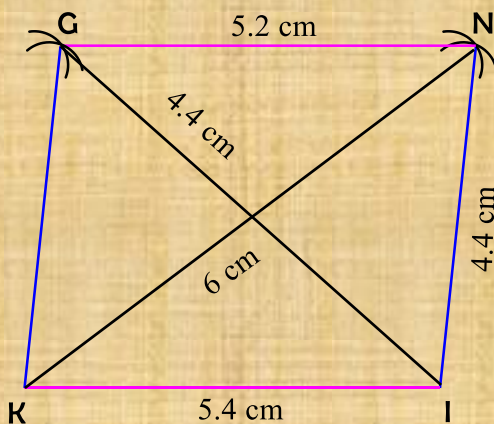
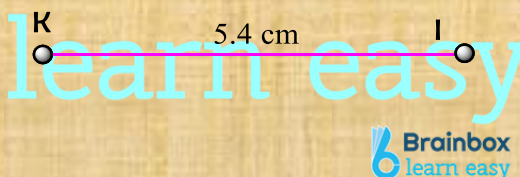
Construct a quadrilateral “KING” in which $KI = 5.4$ cm, $IN = 4.4$ cm, $NG = 5.2$ cm, $KN = 6$ cm and $IG = 6.5$ cm.

Sol.

Draw a rough figure and label it with the given measurements as shown. Follow the given steps to construct the quadrilateral.

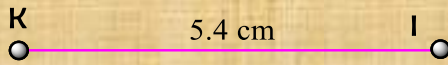
Step 1:

Draw a line segment $KI = 5.4$ cm.



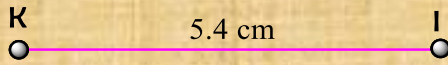
Step 2:

With 'I' as centre and radius 4.4 cm. Draw an arc.



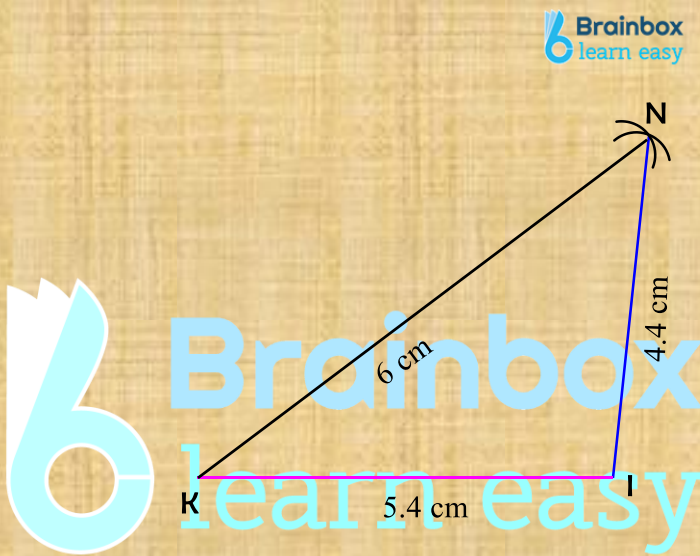
Step 3:

With 'K' as centre and radius 6 cm, draw another arc to cut the previous arc at 'N'.



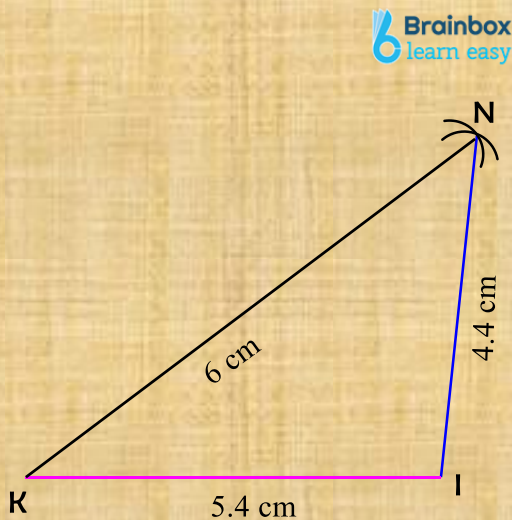
Step 4:

Join 'KN' and 'IN' to get $\triangle KIN$.



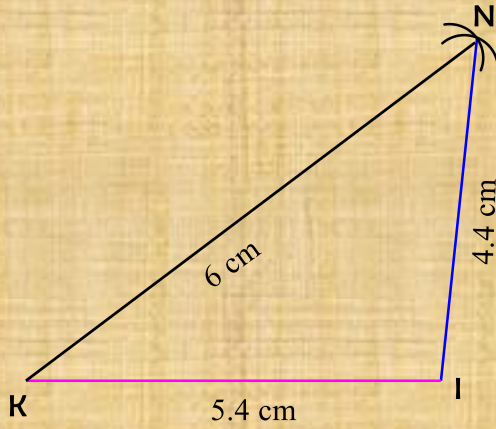
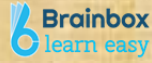
Step 5:

With 'N' as centre and radius 5.2 cm. Draw an arc.

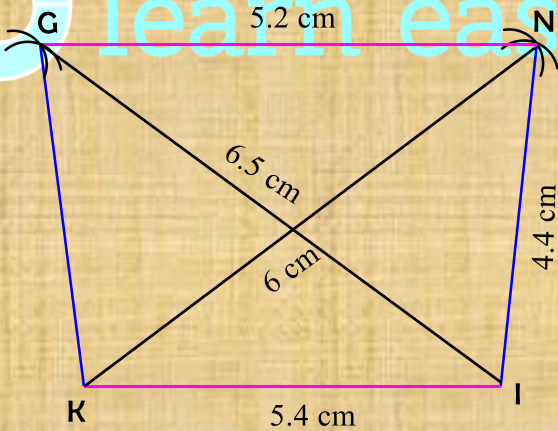


Step 6:

With 'I' as centre and radius 6.5cm. Draw another arc to cut the previous arc at 'G'.

**Step 7:**

Join 'NG' and 'KG'. Join IG to show the diagonal.



The quadrilateral "KING" thus formed is the required quadrilateral.