

Practical Geometry

CHAPTER

4

To construct a quadrilateral when four sides and a diagonal are given (SSSSD) case:

A diagonal divides a quadrilateral into two triangles. Therefore, construct a triangle with the diagonal as one of its sides. Then construct another triangle with the same diagonal as one of its sides to get the required quadrilateral.

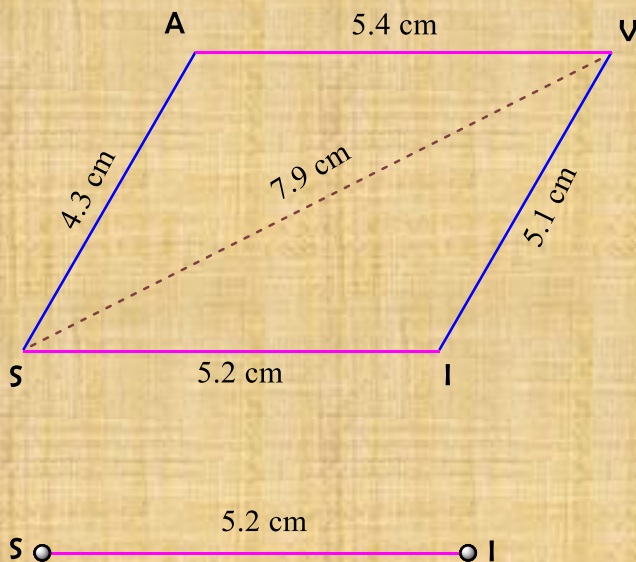
Example:

Construct a quadrilateral SIVA in which $SI = 5.2$ cm, $IV = 5.1$ cm, $VA = 5.4$ cm, $AS = 4.3$ cm and $SV = 7.9$ cm.

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

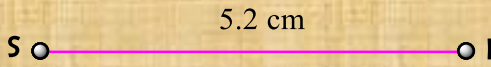
Step 1:

Draw a line segment $SI = 5.2$ cm.



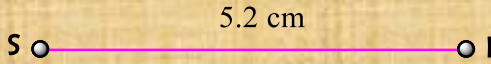
Step 2:

With 'S' as centre and radius 7.9 cm. Draw an arc.



Step 3:

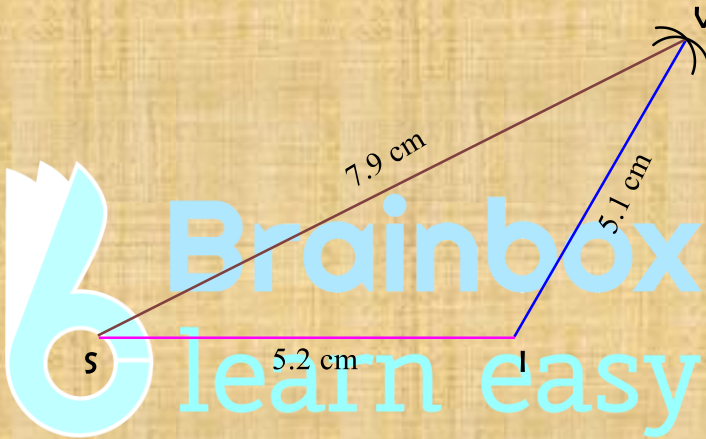
With 'I' as centre and radius 5.1 cm, draw another arc to cut the previous arc at 'V'.



Step 4:

Join SV and IV to get $\triangle SIV$.

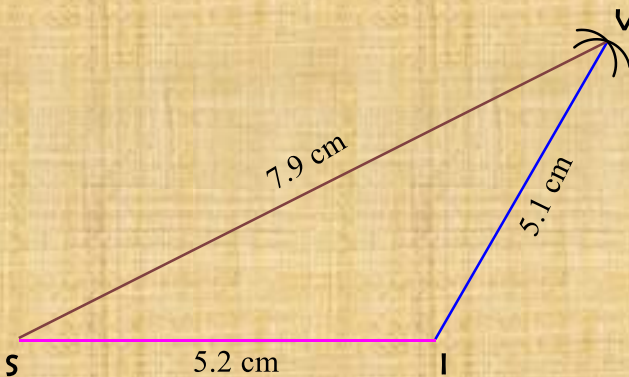
Brainbox
learn easy



Step 5:

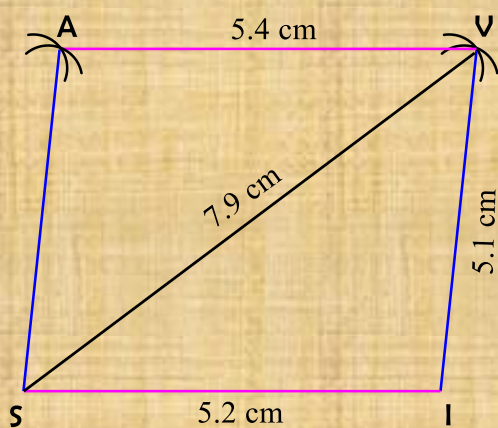
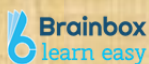
With 'V' as centre and radius 5.4 cm, draw an arc.

Brainbox
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Step 6:

With 'S' as centre and radius 4.3 cm, draw another arc to cut the previous arc at 'A'.



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

