

Practical Geometry

CHAPTER

4

To construct a parallelogram when its adjacent sides and an angle are given:

The opposite sides of a parallelogram are equal. Therefore, the construction of this parallelogram can be considered as SSSSA case of construction of a quadrilateral.

Example:

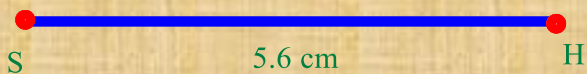
Construct a parallelogram SHIP given measurements as shown. $SH = 5.6$ cm, $HI = 4.0$ cm and $\angle SHI = 120^\circ$.

Sol.

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

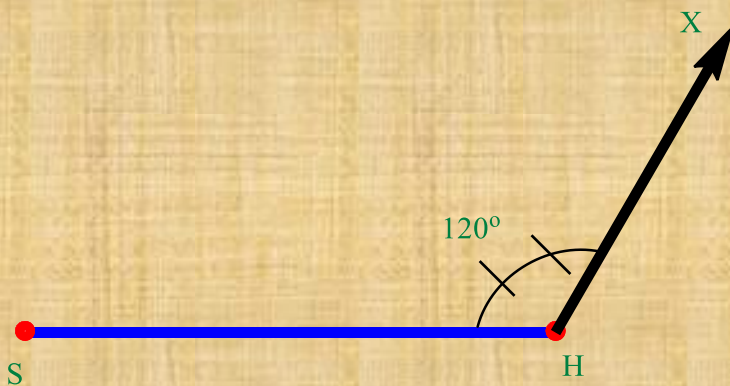
Step I:

Draw a line segment $SH = 5.6$ cm.



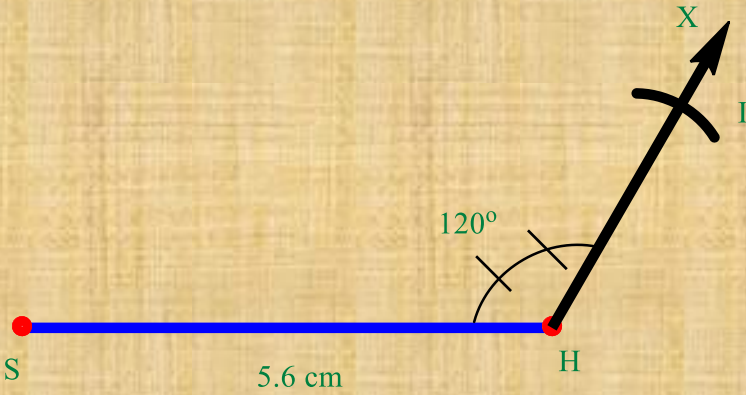
Step II:

At 'H', draw a ray \overrightarrow{HX} , such that $\angle SHI = 120^\circ$ using a compass and a ruler or protractor.

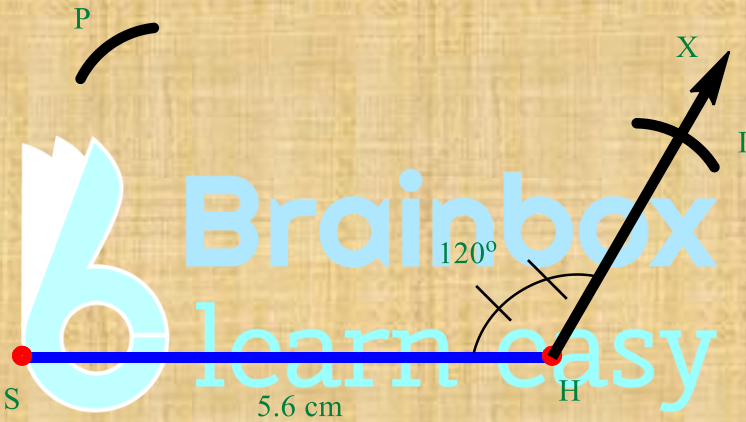


Step III:

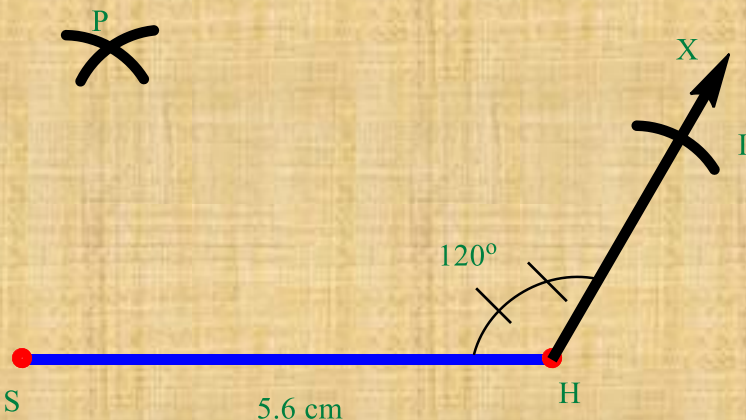
With 'H' as centre and radius 4.0 cm draw an arc to HX at 'I'.

**Step IV:**

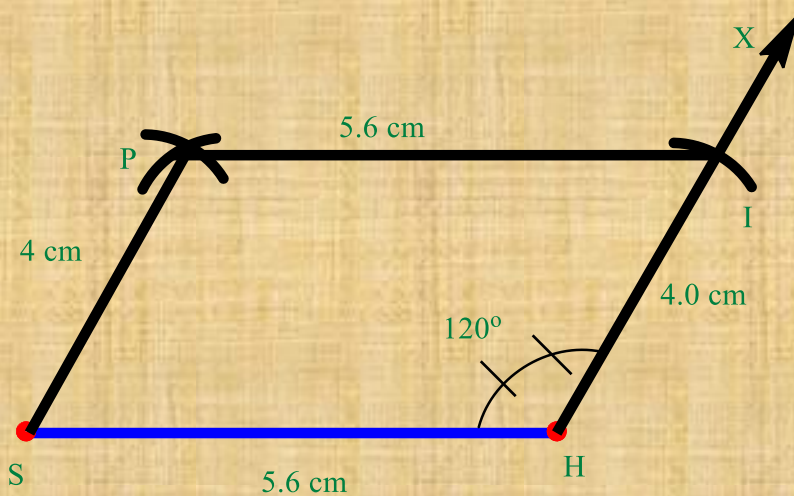
With 'I' as centre and radius 5.6 cm draw an arc.

**Step V:**

With 'S' as centre and radius 4.0 cm, draw another arc to cut the previous arc at 'P'.

**Step VI:**

Join IP and SP.



Thus SHIP formed is the required parallelogram.