

Practical Geometry

CHAPTER

4

Example:

Construct a quadrilateral "GAME" in which $GA = 4.5$ cm, $AM = 5.2$ cm, $ME = 5.5$ cm, $GE = 4$ cm and $\angle GAM = 120^\circ$.

To construct a quadrilateral when four sides and an angle are given (SSSSA) case:

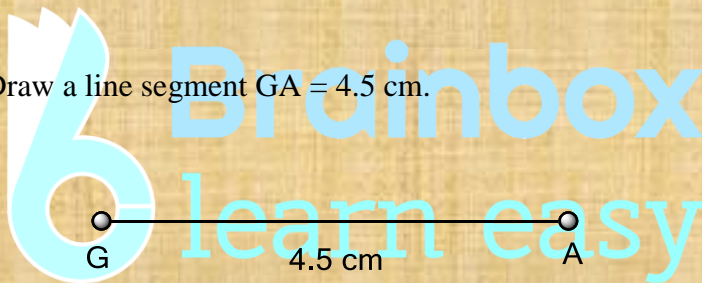
Sol.

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

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

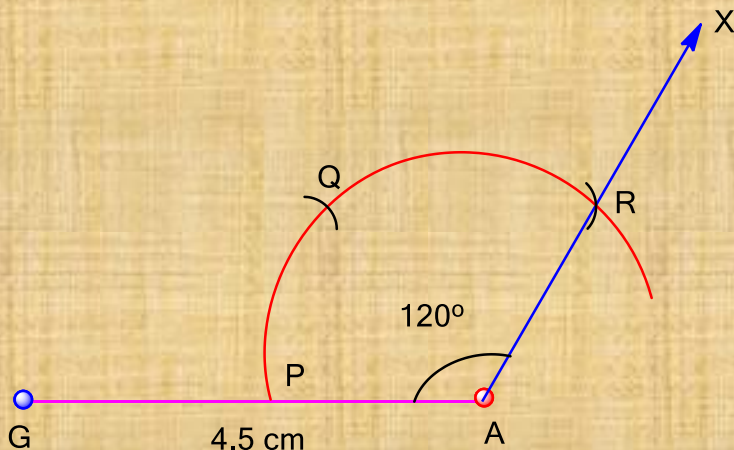
Step 1:

Draw a line segment $GA = 4.5$ cm.



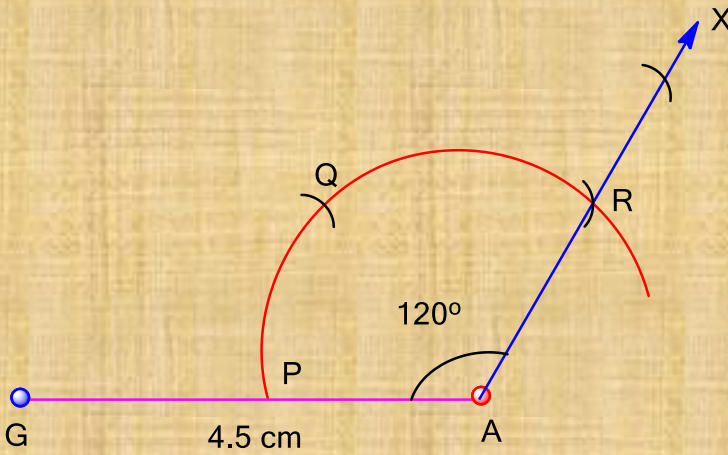
Step 2:

Draw a ray \overrightarrow{AX} at A, with $\angle A = 120^\circ$.

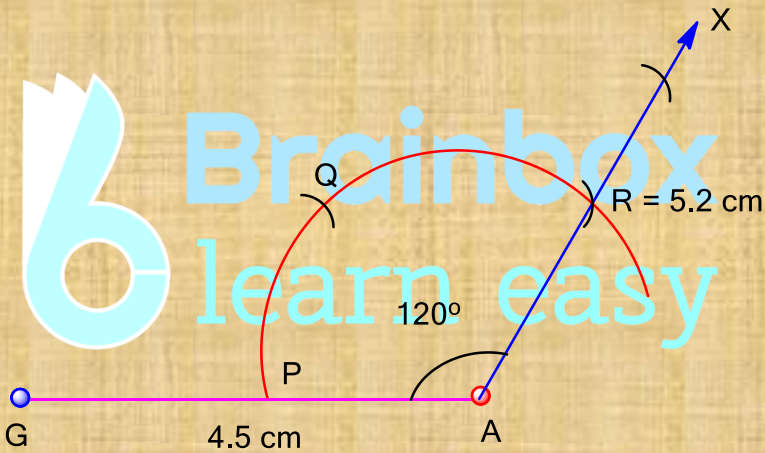


Step 3:

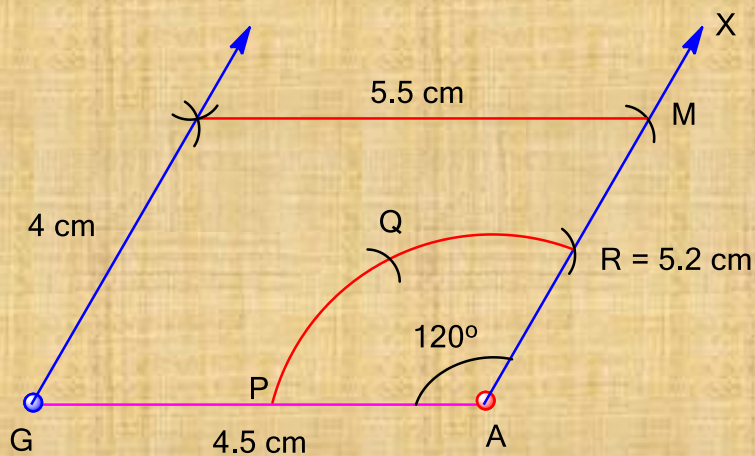
With 'A' as centre and radius 5.2 cm, draw an arc to cut AX at 'M'.

**Step 4:**

With 'M' as centre and radius 5.5 cm. Draw an arc.

**Step 5:**

With 'G' as centre and radius 4 cm. Draw another arc to cut the previous arc at 'E' and join ME, GE.



The quadrilateral “GAME” they formed is the required quadrilateral.

