Triangle Construction (Possibilities) – SSS, SAS

SSS (Side-Side-Side) Triangle construction

Let us understand with an Example:

Example: Construct a Triangle ABC with AB = 7 cm, BC = 4 cm, and CA = 6 cm.

Solution: The steps for construction of triangle are:

Step 1: Mark a point A

Step 2: Measure the length of 7 cm using compass and scale

Step 3: With the help of Compass mark an arc placing pointer at point A

Step 4: Mark a point B on the arc

Step 5: Now measure the length of 6 cm

Step 6: Again using compass mark an arc above point B using the same point (A)

Step 7: Measure the length of 4 cm

Step 8: Using the compass placed at point B cut an arc such that it crosses the previous arc.

Step 9: Name the point as C where the two arcs cross each other

Step 10: At the end, join the points A, B and C with the help of a ruler to give the required triangle.



Thus, the obtained triangle is the required triangle ABC with the given measurements.

Triangle Construction (Possibilities) – SSS, SAS

SAS (Side – Angle – Side) Triangle Construction

Let us understand with an Example:

Example: Construct a triangle ABC, the lengths of the sides are AB = 4 cm, AC = 7 cm and $\angle CAB = 60^{\circ}$.

Solution: The steps for its construction are:

Step 1: Draw a straight line and mark its left endpoint as A.

Step 2: Set the compass to a width of 4 cm.

Step 3: Place the pointer head of the compass at A and cut an arc on the line.

Step 4: Mark the point as B where the arc crosses the line.

Step 5: Construct a 60-degree angle with line AB at point A.

Step 6: Set the compass to a width of 7 cm.

Step 7: Place the pointer head of the compass at A and cut an arc on the 60° line.

Step 8: Mark the point as C where the arc crosses the line.

Step 9: Join points B and C using a ruler.



Thus, you obtained a triangle ABC of the required measurements.