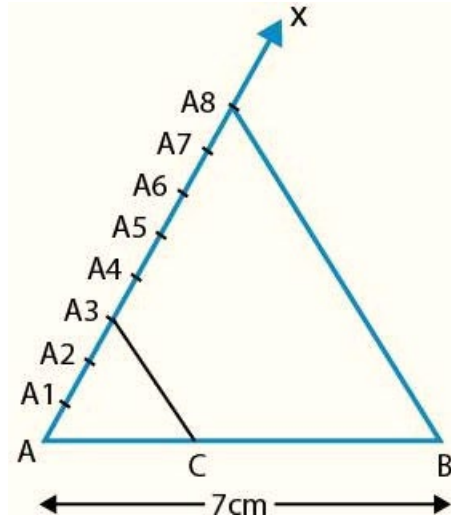


### EXERCISE 10.3

1. Draw a line segment of length 7 cm. Find a point P on it which divides it in the ratio 3:5.

Solution:



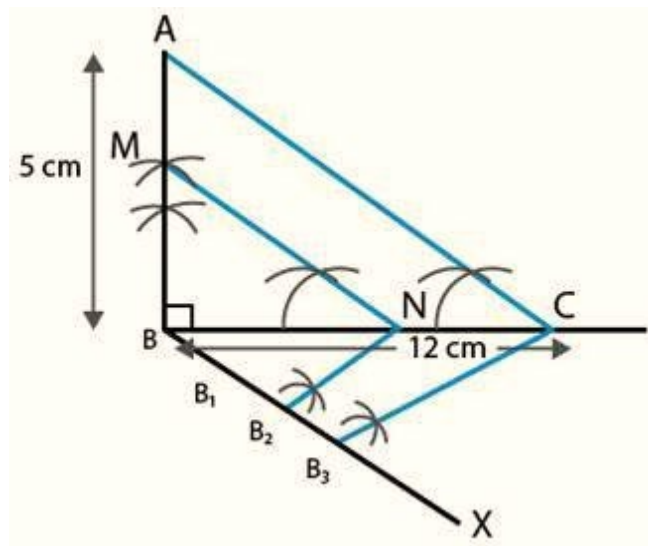
Steps of construction:

1. Draw a line segment,  $AB = 7$  cm.
2. Draw a ray,  $AX$ , making an acute angle down ward with  $AB$ .
3. Mark the points  $A_1, A_2, A_3 \dots A_8$  on  $AX$ .
4. Mark the points such that  $AA_1 = A_1A_2 = A_2A_3 = \dots, A_7A_8$ .
5. Join  $BA_8$ .
6. Draw a line parallel to  $BA_8$  through the point  $A_3$ , to meet  $AB$  on  $P$ .

Hence  $AP: PB = 3: 5$

2. Draw a right triangle  $ABC$  in which  $BC = 12$  cm,  $AB = 5$  cm and  $\angle B = 90^\circ$ . Construct a triangle similar to it and of scale factor  $2/3$ . Is the new triangle also a right triangle?

Solution:



Steps of construction:

1. Draw a line segment  $AB = 5$  cm. Construct a right angle  $SAB$  at point A.
2. Draw an arc of radius 12 cm with B as its centre to intersect SA at C.
3. Join BC to obtain ABC.
4. Draw a ray AX making an acute angle with AB, opposite to vertex C.
5. Locate 3 points,  $A_1, A_2, A_3$  on line segment AX such that  $AA_1 = A_1A_2 = A_2A_3$ .
6. Join  $A_3B$ .
7. Draw a line through  $A_2$  parallel to  $A_3B$  intersecting AB at B'.
8. Through B', draw a line parallel to BC intersecting AC at C'.
9. Triangle AB'C' is the required triangle.



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