



# MATHS

## BOOKS - EDUCART PUBLICATION

### CONSTRUCTIONS

Objective Type Questions Multiple Choice Questions

1. To divide a line segment  $AB$  in the ratio  $5:7$ , first a ray  $AX$  is drawn, so that  $\angle BAX$  is an

acute angle and then at equal distances point are marked on the ray  $AX$  such that the minimum number of these points is

A. 8

B. 10

C. 11

D. 12

**Answer: D**



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2. To divide a line segment  $AB$  in the ratio  $4:7$ , a ray  $AX$  is drawn first such that  $\angle BAX$  is an acute angle and then points  $A_1, A_2, A_3, \dots$  are located at equal distance on the ray  $AX$  and the point  $B$  is joined to

A.  $A_{12}$

B.  $A_{11}$

C.  $A_{10}$

D.  $A_9$

**Answer: B**



3. To divide a line segment  $AB$  in the ratio  $5:6$ , draw a ray  $AX$  such that  $\angle BAX$  is an acute angle, then draw a ray  $BY$  parallel to  $AX$  and the points

$A_1, A_2, A_3, \dots$  and  $B_1, B_2, B_3, \dots$  are located to equal distances on ray  $AX$  and  $BY$ , respectively. Then, the points joined are

A.  $A_5$  and  $B_6$

B.  $A_6$  and  $B_5$

C.  $A_4$  and  $B_5$

D.  $A_5$  and  $B_4$

**Answer: A**



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4. To draw a pair of tangents to a circle which are inclined to each other at an angle of  $60^\circ$ , it is required to draw tangents at end points of those two radii of the circle, the angle between them should be

A.  $135^\circ$

B.  $90^\circ$

C.  $60^\circ$

D.  $120^\circ$

**Answer: D**



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5. To divide a line segment AB in the ratio 2 : 5, first a ray AX is drawn, so that BAX is an acute angle and then at equal distance points are

marked on the ray  $AX$  such that the minimum number of these point is:

A. 2

B. 5

C. 4

D. 7

**Answer: D**



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6. The ratio of the sides of the triangle to be constructed with the corresponding sides of the given triangle is known as:

- A. scale factor
- B. length factor
- C. side factor
- D. K-factor

**Answer: A**



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## Objective Type Questions Fill In The Blanks

1. Fill in the blanks/tables with suitable information:

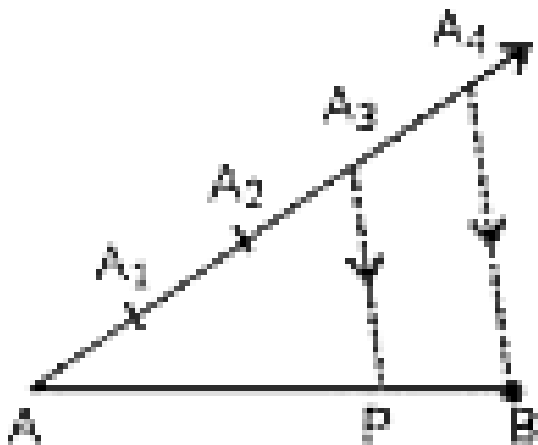
If a line segment AB of length 6 cm is divided internally by a point C in the ratio of 3: 2, then the length of AC is \_\_\_\_\_ .



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2. Fill in the blanks/tables with suitable information:

In the given figure, P divides the line segment AB in the ratio \_\_\_\_\_



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Objective Type Questions Write True Or False

1. By geometrical construction, it is possible to divide a line segment in the ratio  $\sqrt{3} : \frac{1}{\sqrt{3}}$ .



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2. A pair of tangents can be constructed to a circle inclined at an angle of  $170^\circ$



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Short Answer Sa I Type Questions

1. Draw a line segment of length 8 cm and divide it internally in the ratio 4 : 5.



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2. Divide a line segment AB of length 7 cm in the ratio 2 : 3. Also, measure the two parts.



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3. Divide a line segment AB of length 5.8 cm internally in the ratio 3: 5.



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## Short Answer Sa Ii Type Questions

1. Draw a circle of radius 3.5 cm . Take a point P outside the circle at a distance of 7 cm from the centre of the circle and construct a pair of tangents to the circle from the point.



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



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## Long Answer Type Questions

1. Construct a tangent to a circle of radius 4cm from a point which is at a distance of 6 cm from its centre.



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2. Draw a line segment  $AB$  of length 7 cm.

Taking  $A$  as centre, draw a circle of radius 3 cm and taking  $B$  as centre, draw another circle of radius 2 cm. Construct tangents to each circle from the centre of the other circle.



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3. Draw two tangents to a circle of radius 4 cm, which are inclined to each other at an angle of  $60^\circ$ .



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4. Draw two concentric circles of radii 2 cm and 5 cm. Take a point P on the outer circle and construct a pair of tangents PA and PB to the smaller circle. Measure PA.



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5. Draw a circle of radius 4 cm. Draw a tangent to the circle, making an angle of  $60^\circ$  with a line passing through the centre.

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6. Draw two concentric circles of radii 3 cm and 5 cm. Construct a tangent to the smaller circle from a point on the larger circle. Also, measure its length.

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