

**DEPARTMENT OF PUBLIC INSTRUCTION - CHIKKAMAGALURU**

**MULTIPLE CHOICE QUESTIONS FOR PRACTICE**

**SUBJECT: MATHEMATICS**

**UNIT: CONSTRUCTIONS**

**CLASS:10**

**STUDENT NAME:**

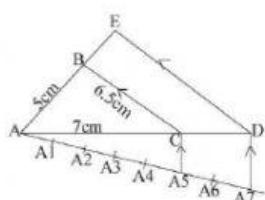
**SCHOOL NAME:**

**Four alternative /choices are given for each incomplete statement or a question. Click the correct answer.**

1. A student constructed a triangle ABC with sides  $AB = 5\text{cm}$ ,  $BC=6.5\text{cm}$ ,  $AC=7\text{cm}$  and then constructed a

$\triangle ADE$  similar to  $\triangle ABC$  such that each of its sides are  $\frac{7}{5}$  of the corresponding sides of  $\triangle ABC$ .

The length of AD and AE obtained by calculation are equal to



A) 9.8cm and 7cm      B) 3.4cm and 6.5cm      C) 6.5cm and 9.8cm      D) 10cm and 11.5cm

2. To divide a line segment AB in the ratio 3:4, first, a ray AX is drawn so that  $\angle BAX$  is an acute angle and then at equal distances points are marked on the ray AX such that the minimum number of these points is:

A) 5      B) 7      C) 9      D) 11

3. To divide a line segment AB of length 10cm in the ratio 5:8, a ray AX is drawn first such that  $\angle BAX$  forms an acute angle and then points A1, A2, A3, ...are located at equal distances on the ray AX and the point B is joined to:

A) A5      B) A6      C) A10      D) A13

4. To construct a triangle similar to a given  $\triangle PQR$  with its sides  $5/8$  of the similar sides of  $\triangle PQR$ , draw a ray QX such that  $\angle RQX$  is an acute angle and X lies on the opposite side of P with respect to QR. Then locate points Q1, Q2, Q3, ... on QX at equal distances, and the next step is to join:

A) Q10 To R      B) Q3 To R      C) Q8 To R      D) Q4 To R

5. To construct a triangle similar to a given  $\triangle PQR$  with its sides,  $9/5$  of the corresponding sides of  $\triangle PQR$  draw a ray QX such that  $\angle RQX$  is an acute angle and X is on the opposite side of P with respect to QR. The minimum number of points to be located at equal distances on ray QX is:

A) 5      B) 9      C) 10      D) 14

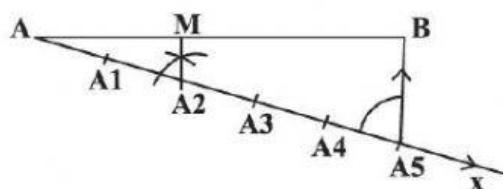
6. To construct a pair of tangents to a circle at an angle of  $60^\circ$  to each other, it is needed to draw tangents at endpoints of those two radii of the circle, the angle between them should be:

A) 100      B) 90      C) 180      D) 120

7. A pair of tangents can be constructed from a point P to a circle of radius 3.5 cm situated at a distance of \_\_\_\_\_ from the centre.

A) 3.5      B) 2.5      C) 5      D) 2

8. A student divided a line of length 9cm in the ratio 2:3 geometrically as shown in the figure. The correct lengths of AM and BM obtained by calculation are respectively equal to



A) 6.3cm and 2.7cm      B) 3.5cm and 5.5cm      C) 3.6cm and 5.4cm      D) 2.8cm and 6.2cm

9. To divide a line segment PQ in the ratio  $m:n$ , where  $m$  and  $n$  are two positive integers, draw a ray PX so that  $\angle QPX$  is an acute angle and then mark points on ray PX at equal distances such that the minimum number of these points is:

A)  $m + n$       B)  $m - n$       C)  $m - n + 1$       D) 4

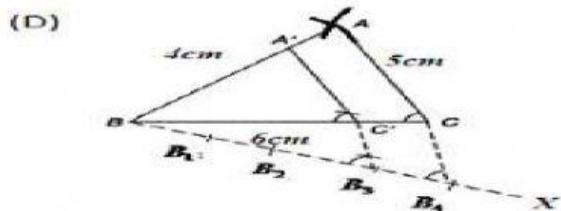
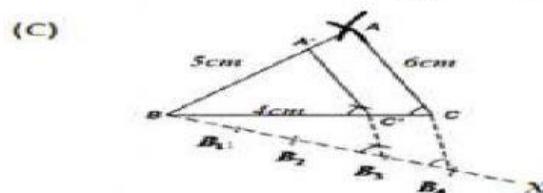
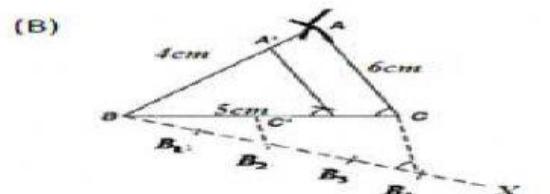
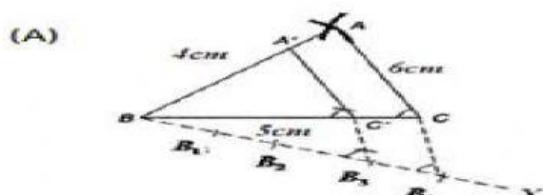
10. To draw a pair of tangents to a circle which are inclined to each other at an angle of  $45^\circ$ , it is required to draw tangents at the endpoints of those two radii of the circle, the angle between which is:

A) 135      B) 155      C) 160      D) 120

11. To construct a triangle ABC and then a triangle similar to it whose sides are  $2/3$  of the corresponding sides of the first triangle. A ray AX is drawn where multiple points at equal distances are located. The last point to which point B will meet the ray AX will be:

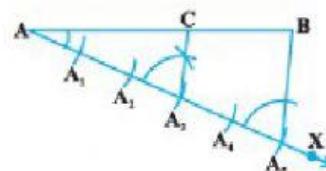
A) A1      B) A2      C) A3      D) A4

12. A triangle ABC is such that  $BC = 6\text{ cm}$ ,  $AB = 4\text{ cm}$  and  $AC = 5\text{ cm}$ . For the triangle similar to this triangle with its sides equal to  $(3/4)\text{th}$  of the corresponding sides of  $\triangle ABC$ , correct figure is:



13. In the given figure, in which ratio the point C divides the line segment AB?

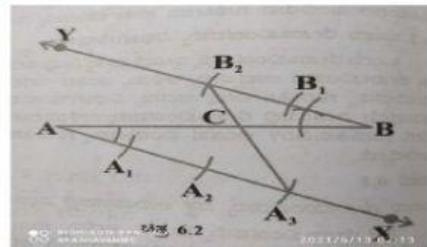
A) 3:2      B) 2:3      C) 3:5      D) 5:3



14. Given that  $\triangle ABC \sim \triangle AB'C'$ , if the corresponding sides of the  $\triangle AB'C'$  and  $\triangle ABC$  are in the proportion of  $5/2$ , then  $AB : AB' = \dots$   
A)  $5 : 2$       B)  $2 : 5$       C)  $3 : 2$       D)  $2 : 3$

15. In the figure, point C divides the line AB in the ratio

A) 5:2      B) 2:5      C) 2:3      D) 3:2



16. In a circle, if the angle between a pair of tangents is twice the angle between the radii, then the angle between the radii at the centre is

A) 30      B)  $60^\circ$       C)  $45^\circ$       D)  $90^\circ$

17. If  $AB = 9$  cm,  $AC = 1/2 BC$ , C is a point on the line AB, then the length of AC is -----  
A) 6cm      B) 3cm      C) 4.5cm      D) 9cm