

MULTIPLE CHOICE QUESTIONS FOR PRACTICE

SUBJECT: MATHEMATICS

UNIT: CONSTRUCTIONS

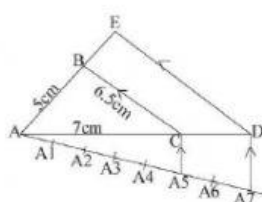
CLASS:10

STUDENT NAME:

SCHOOL NAME:

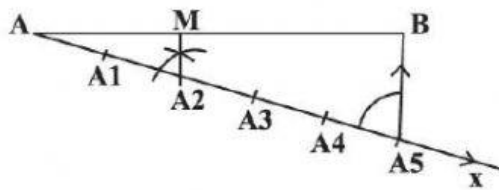
Four alternative /choices are given for each incomplete statement or a question. Click the correct answer.

1. A student constructed a triangle ABC with sides AB = 5cm, BC=6.5cm, AC=7cm 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

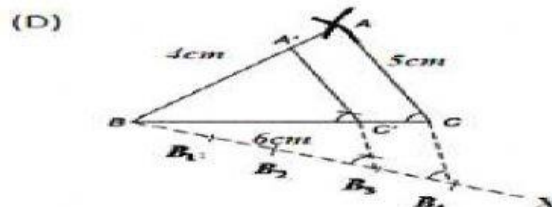
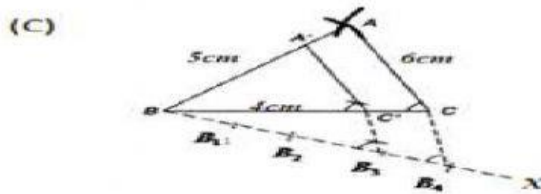
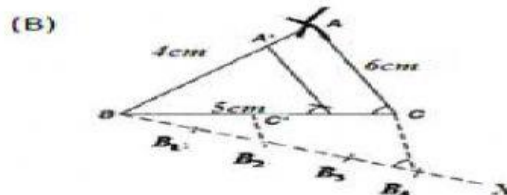
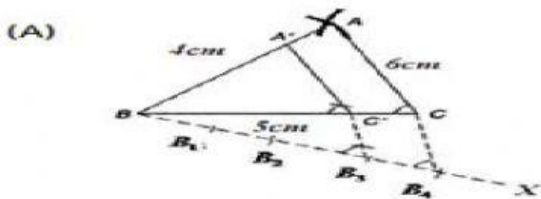


- A) 9.8cm and 7cm B) 3.4cm and 6.5cm C) 6.5cm and 9.8cm D) 10cm and 11.5cm
2. To divide a line segment AB in the ratio 3:4, first, a ray AX is drawn so that $\angle BAX$ is an acute angle and then at equal distances points are marked on the ray AX such that the minimum number of these points is:
- A) 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 $\frac{5}{8}$ 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, $\frac{9}{5}$ 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° 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

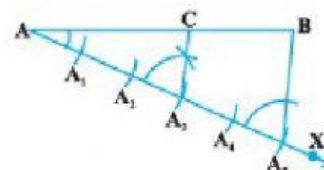


- A) 6.3cm and 2.7cm B) 3.5cm and 5.5cm C) 3.6cm and 5.4cm D) 2.8cm and 6.2cm
9. To divide a line segment PQ in the ratio $m:n$, where m and n are two positive integers, draw a ray PX so that $\angle QPX$ is an acute angle and then mark points on ray PX at equal distances such that the minimum number 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° , 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 $\frac{2}{3}$ 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 $BC = 6$ cm, $AB = 4$ cm and $AC = 5$ cm. For the triangle similar to this triangle with its sides equal to $(\frac{3}{4})$ 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?

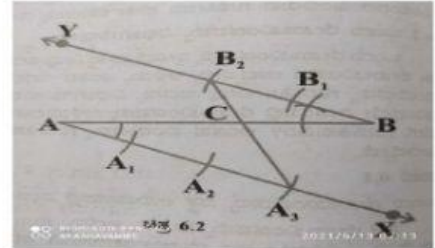
- A) 3:2 B) 2:3 C) 3:5 D) 5:3



14. Given that $\triangle ABC \sim \triangle AB^1C^1$, if the corresponding sides of the $\triangle AB^1C^1$ and $\triangle ABC$ are in the proportion of $5/2$, then $AB : AB^1 = \text{---}$
 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° C) 45° D) 90°

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