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NCERT Mathematics Class 10 Exemplar Ch 10 Constructions Part 1

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EXERCISE 10.1

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 points 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

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 distances 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 at 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

4. To construct a triangle similar to a given $\triangle ABC$ with its sides $\frac{3}{7}$ of the corresponding sides of $\triangle ABC$, first draw a ray BX such that $\angle CBX$ is an acute angle and X lies on the opposite side of A with respect to BC. Then locate points B_1, B_2, B_3, \dots on BX at equal distances and next step is to join

(A) B_{10} to C (B) B_3 to C (C) B_7 to C (D) B_4 to C

Answer: C

5. To construct a triangle similar to a given $\triangle ABC$ with its sides $\frac{8}{5}$ of the corresponding sides of $\triangle ABC$ draw a ray BX such that $\angle CBX$ is an acute angle and X is on the opposite side of A with respect to BC. The minimum number of points to be located at equal distances on ray BX is

(A) 5 (B) 8 (C) 13 (D) 3

Answer: B

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

(A) 135° (B) 90° (C) 60° (D) 120°

Answer: D