

1. 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_4
 - (b) A_{11}
 - (c) A_{10}
 - (d) A_7
- (b) A_{11}

2. When a line segment is divided in the ratio 2 : 3, how many parts is it divided into?

- (a) $2/3$
 - (b) 2
 - (c) 3
 - (d) 5
- (d) 5

3. 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
- (d) 12

4. To divide a line segment AB in the ratio $p : q$ (p, q are positive integers), draw a ray AX so that $\angle BAX$ is an acute angle and then mark points on ray AX at equal distances such that the minimum number of these points is :

- (a) $p + q$
 - (b) pq
 - (c) $p + q - 1$
 - (d) greater of p and q
- (a) $p + q$

5. To construct a triangle similar to 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) 3
 - (b) 5
 - (c) 8
 - (d) 13
- (c) 8

6. Which theorem criterion we are using in giving the justification of the division of a line segment by usual method ?

- (a) SSS criterion
 - (b) Area theorem
 - (c) BPT
 - (d) Pythagoras theorem
- (c) BPT

7. PT and PS are tangents drawn to a circle, with centre C, from a point P. If $\angle TPS = 50^\circ$, then the measure of $\angle TCS$ is

- (a) 150°
 - (b) 130°
 - (c) 120°
 - (d) 100°
- (b) 130°

8. In division of a line segment AB, any ray AX making angle with AB is

- (a) right angle
 - (b) obtuse angle
 - (c) any arbitrary angle
 - (d) acute angle
- (d) acute angle

9. 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_4 and B_5
 - (b) A_5 and B_4
 - (c) A_5 and B_6
 - (d) A_6 and B_5
- (c) A_5 and B_6

10. To divide line segment AB in the ratio $A : b$ (a, b are positive integers), draw a ray AX so that $\angle BAX$ is an acute angle and then mark points on ray AX at equal distances such that the minimum number of these points is

- (a) ab
 - (b) Greater of a and b
 - (c) $(a + b)$
 - (d) $(a + b - 1)$
- (c) $(a + b)$

11. 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 end point of those two radii of the circle, the angle between which is :

- (a) 105°
 - (b) 135°
 - (c) 145°
 - (d) 70°
- (b) 135°

12. A point O is at a distance of 10 cm from the centre of a circle of radius 6 cm. How many tangents can be drawn from point O to the circle?

- (a) 2
- (b) 1
- (c) Infinite

(d) 0

► (a) 2

13. 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_{10}

(b) A_{11}

(c) A_{12}

(d) A_9

► (b) A_{11}

14. A point O is at a distance of 10 cm from the centre of a circle of radius 6 cm. How many tangents can be drawn from point O to the circle?

(a) 1

(b) 3

(c) Infinite

(d) 2

► (d) 2

15. To construct a triangle similar to 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 equal distance and next step is to join :

(a) B_4 to C

(b) B_{10} to C

(c) B_6 to C

(d) B_7 to C

► (d) B_7 to C

16. To draw a pair of tangents to circle which are inclined to each other at 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) 60°
- (b) 90°
- (c) 120°
- (d) 130°
- ▶ (c) 120°

17. A line segment drawn perpendicular from the vertex of a triangle to the opposite side is called the

- (a) Bisector
- (b) Median
- (c) Perpendicular
- (d) Altitude
- ▶ (d) Altitude

18. To draw a pair of tangents to a circle which are inclined to each other at angle x° , it is required to draw tangents at the end points of those two radii of the circle, the angle between which is

- (a) $180^\circ - x^\circ$
- (b) $90^\circ + x^\circ$
- (c) $90^\circ - x^\circ$
- (d) $180^\circ + x^\circ$
- ▶ (a) $180^\circ - x^\circ$

19. Length of the tangent to a circle from a point 26 cm away from the centre is 24 cm. What is the radius of the circle?

- (a) 11 cm
- (b) 13 cm
- (c) 10 cm
- (d) 12 cm
- ▶ (c) 10 cm

20. If two tangents are drawn at the end points of two radii of a circle which are inclined at 120° to each other, then the pair of tangents will be inclined to each other at an angle of

- (a) 60°
 - (b) 90°
 - (c) 100°
 - (d) 120°
- (a) 60°

21. A draw a pair of tangents to a circle which are inclined to each other at an angle of 65° , it is required to draw tangents at the end points of those two radii of the circle, the angle between which is:

- (a) 95°
 - (b) 105°
 - (c) 110°
 - (d) 115°
- (d) 115°

22. To draw a pair tangents to a circle which are inclined to each other at an angle of 70° , it is required to draw tangents at end points of those two radii of the circle, the angle between them should be

- (a) 20°
- (b) 70°
- (c) 90°
- (d) 110°

1. To construct a triangle similar to given ΔABC with its sides $\frac{8}{5}$ of the corresponding sides of ΔABC , draw a ray BX such that $\angle CBX$ is an acute angle and X is one 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) 3
- (b) 5
- (c) 8
- (d) 13

► (c) 8

2. 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_4 and B_5

(c) A_5 and B_4

(d) A_6 and B_5

► (d) A_6 and B_5

3. To divide a line segment AB in the ratio 2 : 5, 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 such that the minimum number of these points is :

(a) 2

(b) 4

(c) 5

(d) 7

► (d) 7

4. To construct a triangle similar to given ΔPQR with its sides $\frac{5}{8}$ of the corresponding sides of ΔPQR , first a ray PX is drawn such that $\angle QPX$ is an acute angle and X lies on the opposite side of R with respect to PQ. Then locate points P_1, P_2, P_3, \dots on PX at equal distances and next step is to join :

(a) P_5 to Q

(b) P_8 to Q

(c) P_3 to Q

(d) P_6 to Q

► (b) P_8 to Q

5. To draw tangents to each of the circle with radii 3 cm and 2 cm from the centre of the other circle, such that the distance between their centres A and B is 6 cm, a perpendicular bisector of AB is drawn intersecting AB at M. The next step is to draw

(a) a circle with AB as diameter

(b) a circle with MB as diameter

(c) a circle with AM as diameter

(d) extend AB to P such that $BP = MB$ and draw a circle with MP as diameter

► (a) a circle with AB as diameter

6. 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 end points of the two radii of the circle, which are inclined at an angle of

(a) 105°

(b) 115°

(c) 125°

(d) 135°

► (d) 135°

7. To draw a pair of tangents to a circle which are inclined to each other at an angle of 35° , it is required to draw tangents at the end points of those two radii of the circle, the angle between which is :

(a) 70°

(b) 105°

(c) 140°

(d) 145°

► (d) 145°

8. PT and PS are tangents drawn to a circle, with centre C, from a point P. If $\angle TPS = 50^\circ$, then the measure of $\angle TCS$ is

(a) 150°

(b) 130°

(c) 120°

(d) 100°

► (b) 130°

9. To divide line segment AB in the ratio $A : b$ (a, b are positive integers), draw a ray AX so that $\angle BAX$ is an acute angle and then mark points on ray AX at equal distances such that the minimum number of these points is

(a) ab

(b) Greater of a and b

(c) $(a + b)$

(d) $(a + b - 1)$

► (c) $(a + b)$

10. 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

► (d) 12

11. To divide a line segment LM in the ratio $a : b$, where a and b are positive integers, draw a ray LX so that $\angle MLX$ is an acute angle and then mark points on the ray LX at equal distances such that the minimum number of these points is :

(a) greater of a and b

(b) $a + b$

(c) ab

(d) $a + b - 1$

► (b) $a + b$

12. If two tangents are drawn at the end points of two radii of a circle which are inclined at 120° to each other, then the pair of tangents will be inclined to each other at an angle of

- (a) 60°
- (b) 90°
- (c) 100°
- (d) 120°

► (a) 60°

13. 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_{11}
- (b) A_{10}
- (c) A_{12}
- (d) A_9

► (a) A_{11}

14. To divide a line segment AB in the ratio 2 : 3, 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) 2
- (b) 3
- (c) 5
- (d) 6

► (c) 5

15. 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

(v) 11

(d) 12

► (d) 12

16. Which theorem criterion we are using in giving the just the justification of the division of a line segment by usual method ?

(a) SSS criterion

(b) Area theorem

(c) BPT

(d) Pythagoras theorem

► (c) BPT

17. A pair of tangents can be constructed to a circle inclined at an angle of :

(a) 165°

(b) 185°

(c) 195°

(d) 175°

► (d) 175°

18. To divide a line segment AB in the ratio 3 : 7 , 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_4 and B_3

(b) A_7 and B_3

(c) A_5 and B_5

(d) A_3 and B_7

► (a) A_3 and B_7

19. Length of the tangent to a circle from a point 26 cm away from the centre is 24 cm. What is the radius of the circle?

(a) 11 cm

(b) 13 cm

(c) 10 cm

(d) 12 cm

► (c) 10 cm

20. To divide line segment AB in the ratio $m : n$ (m, n are positive integers), draw a ray AX so that $\angle BAX$ is an acute angle and then mark points on ray AX at equal distances such that the minimum number of these points is

(a) greater of m and n

(b) mn

(c) $m + n$

(d) $m + n - 1$

► (c) $m + n$

21. To construct a triangle similar to given $\triangle ABC$ with its sides $\frac{3}{7}$ 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) 3

(b) 4

(c) 7

(d) 10

► (c) 7

22. To draw a pair of tangents to a circle which are at right angles to each other, it is required to draw tangents at end points of the two radii of the circle, which are inclined at an angle of

(a) 60°

(b) 90°

(c) 45°

(d) 120°

► (b) 90°