

Constructions with Answers

Question 1.

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°

Answer: (d) 115°

Question 2.

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

Answer: (c) 10 cm

Question 3.

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

Answer: (d) Altitude

Question 4.

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 $B_1, B_2, B_3,$ 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

Answer: (d) B_7 to C

Question 5.

To divide a line segment AB in the ration $4 : 7$, 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

Answer: (b) A_{11}

Question 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 point of those two radii of the circle, the angle between which is :

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

Answer: (b) 135°

Question 7.

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

Answer: (c) A_5 and B_6

Question 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°

Answer: (b) 130°

Question 9.

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

Answer: (c) 8

Question 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

Answer: (d) 12

Question 11.

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

Answer: (b) A_{11}

Question 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°

Answer: (a) 60°

Question 13.

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) $180^\circ + x^\circ$

Answer: (a) $180^\circ - x^\circ$

Question 14.

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°

Answer: (c) 120°

Question 15.

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

Answer: (d) 2

Question 16.

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

Answer: (a) 2

Question 17.

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) $(a + b - 1)$

Answer: (c) $(a + b)$

Question 18.

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

Answer: (d) acute angle

Question 19.

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

Answer: (c) BPT

Question 20.

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

Answer: (a) $p + q$

Question 21.

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

- (a) $\frac{2}{3}$
- (b) 2
- (c) 3
- (d) 5

Answer: (d) 5
