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 ΔABC with its sides $\frac{3}{7}$ of the corresponding sides of ΔABC, first draw a ray BX such that ∠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 ∠BAX is an acute angle and then points A_1, A_2, A_3,… 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 ∠BAX is an acute angle, then draw a ray BY parallel to AX and the points A_(1 ,) A_(2 ,) A_(3 ,) … and B_(1 ,) B_(2 ,) B_(3 ,)… are located a 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 ∠TPS = 50°, then the measure of ∠TCS is
(a) 150°
(b) 130°
(c) 120°
(d) 100°

Answer: (b) 130°

Question 9.
To construct a triangle similar to given ΔABC with its sides 8585 of the corresponding sides of ΔABC, draw a ray BX such that ∠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

Answer: (c) 8

Question 10.
To divide a line segment AB in the ratio 5 : 7, first a ray AX is drawn so that ∠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 ∠BAX is an acute angle and then points A_1, A_2, A_3, … 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°−x°
(b) 90°+x°
(c) 90°−x°
(d) 180°+x°

Answer: (a) 180°−x°

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 ∠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 ∠BAX s 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
