Unit 10: Tangents and Angles of a Circle

SSC-II Mathematics (Federal Board, National Book Foundation) | 32 MCQs

Choose the correct answer. The correct option is shown in **bold**. Each question carries one mark.

---

1. The measure of the central angle of a circle is

A. equal to the inscribed angle on the same arc
B. half the inscribed angle on the same arc
C. 90° always
D. twice the inscribed angle on the same arc

2. The angle at the centre of a circle subtended by an arc is 80°. The inscribed angle on the same arc is

A. 40°
B. 100°
C. 160°
D. 80°

3. The angle in a semicircle is

A. an obtuse angle
B. a straight angle
C. a right angle
D. an acute angle

4. Angles in the same segment of a circle are

A. complementary
B. equal
C. supplementary
D. unequal

5. The sum of the opposite angles of a cyclic quadrilateral is

A. 180°
B. 360°
C. 270°
D. 90°

6. In a cyclic quadrilateral ABCD, if angle A = 70°, then angle C equals

A. 20°
B. 70°
C. 110°
D. 290°

7. The length of an arc of a circle of radius r that subtends a central angle θ (in radians) is

A. $r^2\theta$
B. $r\theta$
C. r/θ
D. θ/r

8. A tangent to a circle meets the circle at

A. no point
B. three points
C. two points
D. exactly one point

9. A tangent to a circle is perpendicular to the radius drawn at

A. the midpoint of the radius
B. any point on the circle
C. the point of contact
D. the centre

10. The number of tangents that can be drawn to a circle from a point outside it is

A. 1
B. 3
C. infinitely many
D. 2

11. The number of tangents that can be drawn to a circle from a point on it is

A. 1 B. 0

C. infinitely many D. 2

12. The tangent segments drawn to a circle from an external point are

A. perpendicular **B. equal in length**

C. unequal in length D. parallel

13. The radius of a circle is 5 cm and the point P is 13 cm from the centre. The length of the tangent from P is

A. √194 cm B. 8 cm

C. 12 cm D. 18 cm

14. The radius of a circle is 3 cm and the point P is 5 cm from the centre. The length of the tangent from P is

A. 2 cm B. 8 cm

C. √34 cm **D. 4 cm**

15. The length of a tangent from P is 8 cm and the radius is 6 cm. The distance of P from the centre is

A. 10 cm B. 2 cm

C. √28 cm D. 14 cm

16. PA and PB are tangents from P to a circle with centre O. If angle APB = 60°, then angle AOB equals

A. 30° **B. 120°**

C. 90° D. 60°

17. PA and PB are tangents from P to a circle. If angle APB = 80°, then angle PAB equals

A. 50° B. 80°

C. 100° D. 40°

18. The tangents drawn at the two ends of a diameter of a circle are

A. intersecting B. perpendicular

C. equal to the diameter **D. parallel**

19. The distance between the centres of two circles of radii 5 cm and 3 cm touching externally is

A. 2 cm B. 15 cm

C. 8 cm D. 4 cm

20. The distance between the centres of two circles of radii 7 cm and 3 cm touching internally is

A. 5 cm **B. 4 cm**

C. 10 cm D. 21 cm

21. Two circles of radii 6 cm and 4 cm have their centres 10 cm apart. The circles

A. touch externally B. intersect at two points

C. do not touch D. touch internally

22. A central angle of 140° stands on an arc. The inscribed angle in the major segment on the same arc is

A. 35° B. 140°

C. 70° D. 280°

23. A line drawn perpendicular to a radius of a circle at its outer end is a

A. diameter **B. tangent**

C. secant D. chord

24. The angle in a segment of a circle greater than a semicircle is

A. greater than a right angle B. a straight angle

C. a right angle **D. less than a right angle**

25. The angle in a segment of a circle smaller than a semicircle is

A. zero B. a right angle

C. greater than a right angle D. less than a right angle

26. A central angle of 90° stands on a minor arc. The angle subtended by the same arc in the major segment is

A. 90° **B. 45°**

C. 135° D. 180°

27. ABCD is a quadrilateral inscribed in a circle. If angle B = 85°, then angle D equals

A. 275° B. 105°

C. 85° **D. 95°**

28. AB is a diameter of a circle and C is a point on the circle. If angle BAC = 35°, then angle ABC equals

A. 55° B. 90°

C. 35° D. 145°

29. The angle in a semicircle subtends an angle of

A. 60° B. 180°

C. 45° **D. 90°**

30. Two circles touch externally. The distance between their centres equals

A. the product of their radii B. twice the larger radius

C. the sum of their radii D. the difference of their radii

31. Two circles touch internally. The distance between their centres equals

A. the difference of their radii B. the product of their radii

C. the sum of their radii D. the larger radius

32. The tangent to a circle and the radius through the point of contact are

A. parallel **B. perpendicular**

C. equal D. inclined at 45°