EduSahara™ Learning Center Assignment

Grade : Class X, SSC
Chapter : Tangents and Secants to a Circle
Name : Circle Concepts

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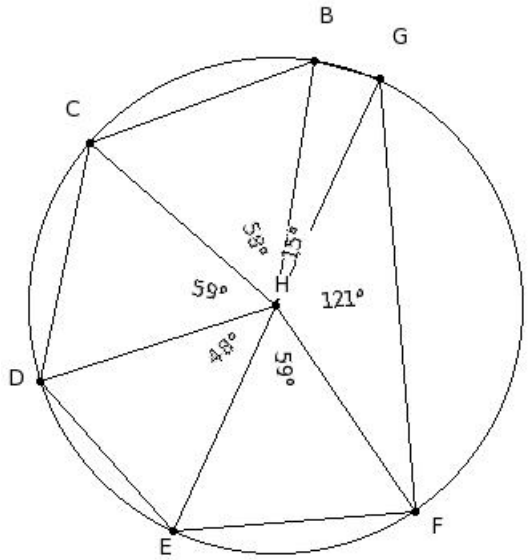
1. The centre of the circle is



(i) C (ii) D (iii) E (iv) B (v) H

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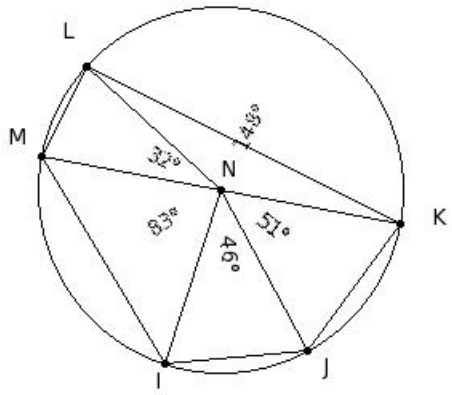
2. The chords of the circle are



(i) $\overline{IJ}$, $\overline{JK}$, $\overline{KL}$, $\overline{LM}$, $\overline{MI}$ (ii) $\overline{IJ}$, $\overline{JK}$, $\overline{KL}$, $\overline{LM}$, $\overline{MI}$, $\overline{KM}$

(iii) $\overline{NI}$, $\overline{NJ}$, $\overline{NK}$, $\overline{NL}$, $\overline{NM}$ (iv) $\overline{JK}$, $\overline{KL}$, $\overline{LM}$, $\overline{MI}$

(v) $\overline{IJ}$, $\overline{JK}$, $\overline{KL}$, $\overline{LM}$, $\overline{MI}$, $\overline{NI}$

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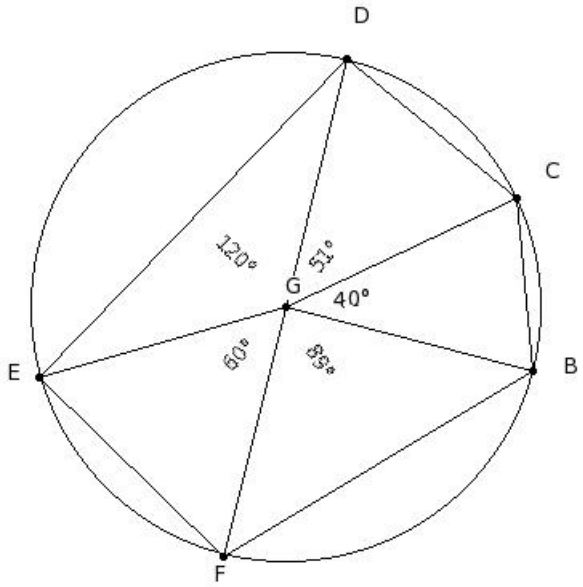
3. The diameters of the circle are



(i) $\overline{DF}$ (ii) $\overline{BC}$, $\overline{CD}$, $\overline{DE}$, $\overline{EF}$, $\overline{FB}$

(iii) $\overline{GB}$, $\overline{GC}$, $\overline{GD}$, $\overline{GE}$, $\overline{GF}$ (iv) $\overline{BC}$, $\overline{CD}$, $\overline{DE}$, $\overline{EF}$, $\overline{FB}$, $\overline{DF}$

(v) $\overline{GB}$, $\overline{GC}$, $\overline{GD}$, $\overline{GE}$, $\overline{GF}$, $\overline{DF}$

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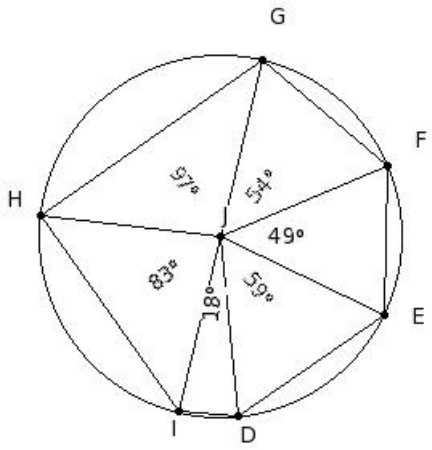
4. The radii of the circle are



(i) $\overline{DE}$, $\overline{EF}$, $\overline{FG}$, $\overline{GH}$, $\overline{HI}$, $\overline{ID}$, $\overline{JD}$ (ii) $\overline{DE}$, $\overline{EF}$, $\overline{FG}$, $\overline{GH}$, $\overline{HI}$, $\overline{ID}$, $\overline{GI}$

(iii) $\overline{EF}$, $\overline{FG}$, $\overline{GH}$, $\overline{HI}$, $\overline{ID}$ (iv) $\overline{JD}$, $\overline{JE}$, $\overline{JF}$, $\overline{JG}$, $\overline{JH}$, $\overline{JI}$

(v) $\overline{DE}$, $\overline{EF}$, $\overline{FG}$, $\overline{GH}$, $\overline{HI}$, $\overline{ID}$

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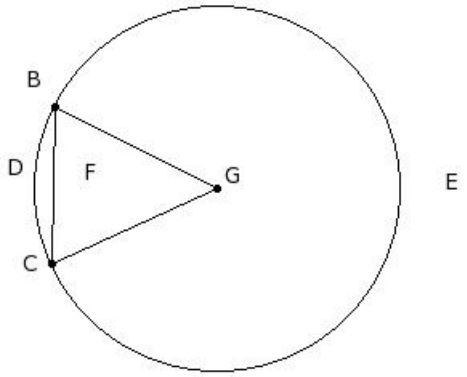
5. The minor sector of the circle is



(i) BECFB (ii) GBDCG (iii) BDC (iv) BDCFB (v) GBECG

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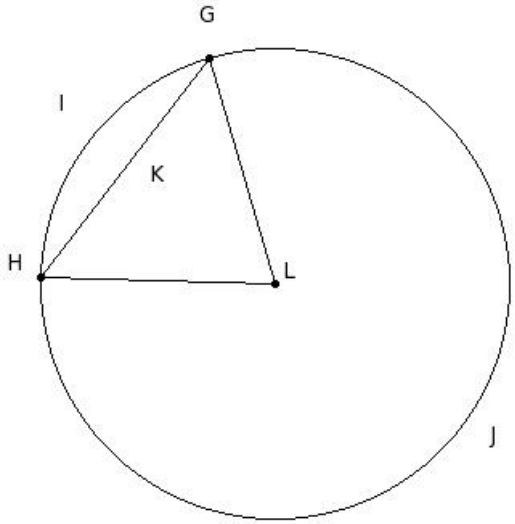
6. The major sector of the circle is



(i) GIHKG (ii) GJHKG (iii) GIH (iv) LGIHL (v) LGJHL

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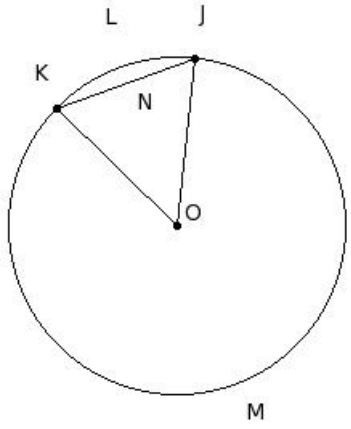
7. The minor arc of the circle is



(i) JMK (ii) OJLKO (iii) JLKNJ (iv) JLK (v) JMKNJ

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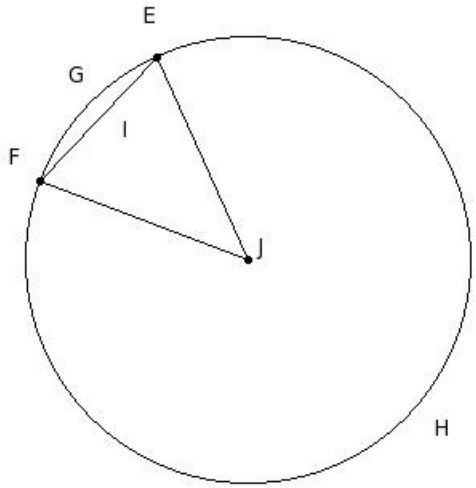
8. The major arc of the circle is



(i) EGF (ii) EHF (iii) JEGFJ (iv) EHFIE (v) JEHFJ

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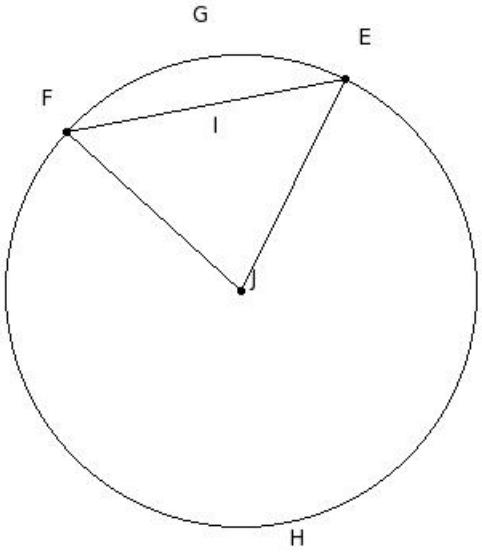
9. The minor segment of the circle is



(i) EGFIE (ii) JEGFJ (iii) EHFIE (iv) JEHFJ (v) EHF

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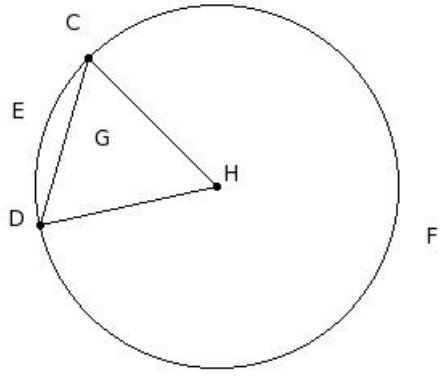
10. The major segment of the circle is



(i) CED (ii) HCEDH (iii) CEDGC (iv) HCFDH (v) CFDGC

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11. The distance around the circle is called

(i) chord (ii) arc (iii) diameter (iv) circumference (v) radius

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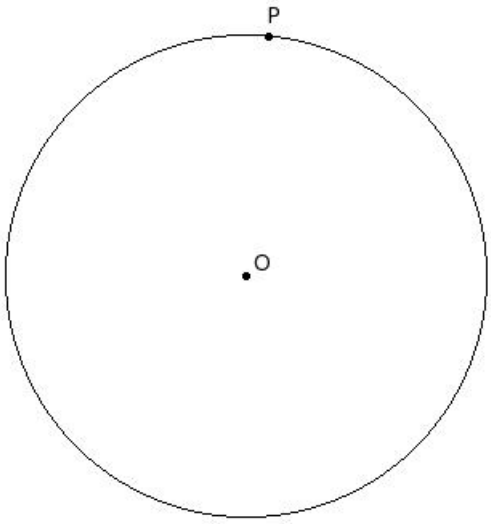
12. 'O' is the centre of a circle of radius 'r' and 'P' is any point in its plane.

If $\overline{OP}$ = r ,then P is



(i) outside the circle (ii) inside the circle (iii) on the circle

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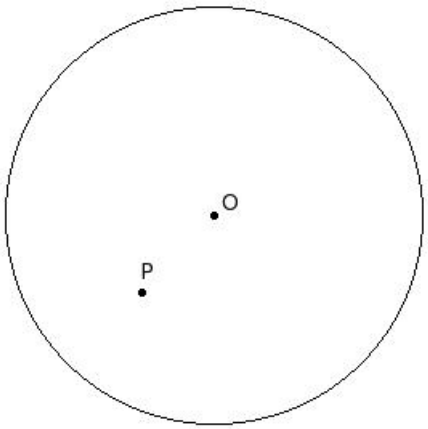
'O' is the centre of a circle of radius 'r' and 'P' is any point in its plane.

13. If $\overline{OP}$ < r,then P is



(i) inside the circle (ii) on the circle (iii) outside the circle

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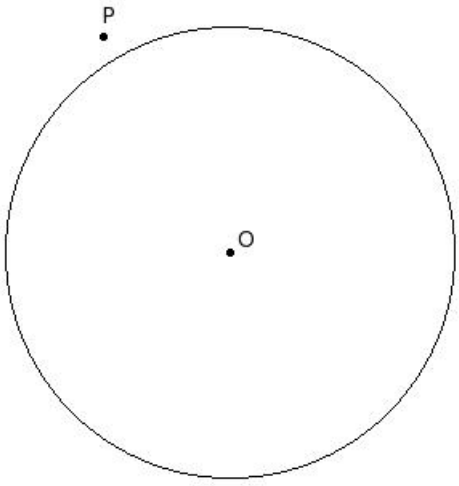
'O' is the centre of a circle of radius 'r' and 'P' is any point in its plane.

14. If $\overline{OP}$ > r,then P is



(i) outside the circle (ii) inside the circle (iii) on the circle

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15. The mid-point of the diameter of a circle is called

(i) semi-circle (ii) diameter (iii) centre (iv) radius (v) chord

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16. A line segment joining any point on the circle with its centre is called

(i) segment (ii) diameter (iii) major segment (iv) semi-circle (v) radius

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17. A line segment having its end points on the circle is called a

(i) radius (ii) chord (iii) segment (iv) diameter (v) major segment

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18. A chord that passes through the centre of the circle is called

(i) chord (ii) diameter (iii) major segment (iv) segment (v) radius

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19. A chord of a circle divides the whole circular region into two parts, each called a

(i) major segment (ii) centre (iii) diameter (iv) circumference (v) segment

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20. The segment of the circle containing the centre of the circle is called

(i) segment (ii) diameter (iii) major segment (iv) semi-circle (v) circumference

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21. Half of a circle is called

(i) semi-circle (ii) diameter (iii) major segment (iv) segment (v) circumference

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22. The perimeter of a circle is called

(i) chord (ii) semi-circle (iii) radius (iv) segment (v) circumference

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23. Which of the following statements are true?

a) A circle consists of an infinite number of points
b) A line can meet a circle atmost at two points
c) Every circle has a unique centre
d) Every circle has a unique diameter
e) Each radius of a circle is also a chord of the circle

(i) {d,a,b} (ii) {d,e,c} (iii) {e,b} (iv) {a,b,c} (v) {d,a}

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24. Which of the following statements are true?

a) Every circle has a unique diameter
b) An infinite number of diameters may be drawn for a circle
c) One and only one tangent can be drawn to a circle from a point outside it
d) Two semi-circles of a circle together make the whole circle
e) An infinite number of chords may be drawn for a circle

(i) {c,d} (ii) {a,c,e} (iii) {a,b,d} (iv) {b,d,e} (v) {a,b}

---

25. Which of the following statements are true?

a) One and only one tangent can be drawn to pass through a point on a circle
b) One and only one tangent can be drawn to a circle from a point outside it

c) Diameter of a circle is a part of the semi-circle of the circle

d) Every circle has a unique diameter

e) A secant of a circle is a segment having its end points on the circle

(i) {a,c} (ii) {b,a} (iii) {d,c,a} (iv) {d,c} (v) {e,b,a}

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26. If the diameter of a circle is 56 cm, what is its radius?

(i) 27 cm (ii) 29 cm (iii) 26 cm (iv) 30 cm (v) 28 cm

---

27. If the radius of a circle is 49 cm, what is its diameter?

(i) 99 cm (ii) 100 cm (iii) 98 cm (iv) 97 cm (v) 96 cm

---

28. If the radius of a circle is 98 cm, what is its circumference?

(i) 615 cm (ii) 616 cm (iii) 618 cm (iv) 614 cm (v) 617 cm

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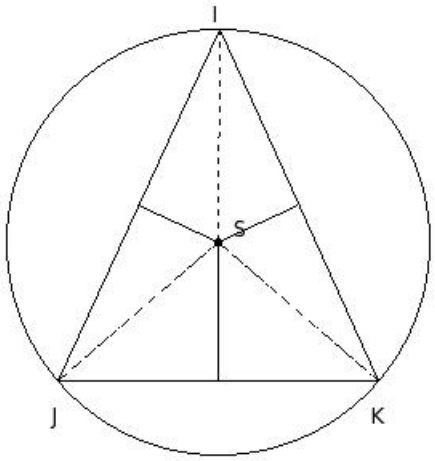
29. In the given triangle S is the circumcentre. If SI = 13.20 cm, find the circumference of the circumcircle



(i) 81.0 cm (ii) 82.0 cm (iii) 84.0 cm (iv) 83.0 cm (v) 85.0 cm

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30. Two circles with equal radii are

(i) congruent

(ii) not similar

(iii) concentric

(iv) only similar but not congruent

---

31. A line which intersects the circle at two distinct points is called a

(i) tangent (ii) circumference (iii) diameter (iv) secant (v) centre

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32. A line which touches a circle at only one point is called a

(i) radius (ii) semi-circle (iii) major segment (iv) tangent (v) diameter

---

33. If the two radii OP and OQ of a circle are at right angles to each other, then the sector OPQ is called a

(i) tangent (ii) quadrant (iii) secant (iv) centre (v) segment

---

34. Which of the following statements are true?

a) Atmost one chord can be drawn on a circle with a certain length

b) A chord divides a circle into two segments
c) The radius is the shortest chord
d) A chord divides a circle into two sectors
e) The diameter is the longest chord

(i) {a,b} (ii) {b,e} (iii) {c,e} (iv) {c,e,b} (v) {d,a,b}

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35. Which of the following statements are true?

a) No two chords bisects each other
b) Equal length chords subtend equal angles at the centre of the circle
c) The longest chord of the circle passes through the centre of the circle
d) Equal length chords are equidistant from the centre of the circle
e) The farther the chord is from the centre, the larger the angle it subtends at the centre

(i) {a,e,d} (ii) {a,b,c} (iii) {a,b} (iv) {e,c} (v) {b,c,d}

---

36. Which of the following statements are true?

a) A sector is the area enclosed by two radii and a chord
b) The area enclosed by a chord and its minor arc is called minor segment
c) The area enclosed by a chord and its major arc is called major segment
d) A circle divides the plane on which it lies into three parts
e) The diameter divides the circle into two unequal parts

(i) {b,c,d} (ii) {a,b,c} (iii) {a,b} (iv) {a,e,d} (v) {e,c}

---

37. Which of the following statements are true?

a) The midpoint of any diameter of a circle is its centre
b) The diameter divides the circle into two unequal parts
c) Two chords bisect each other
d) A sector is the area enclosed by two radii and a chord
e) The longest of all chords of a circle is called diameter

(i) {a,e} (ii) {b,a} (iii) {d,b,a} (iv) {c,e} (v) {c,e,a}

---

38. Which of the following statements are true?

a) Only one circle can be drawn passing through two points
b) Only one circle can be drawn with a centre
c) Infinite circles can be drawn passing through three collinear points
d) Atmost one circle can be drawn passing through three non-collinear points
e) Exactly two tangents can be drawn parallel to a secant

(i) {c,a,d} (ii) {d,e} (iii) {a,d} (iv) {b,e} (v) {b,e,d}

---

39. Which of the following statements are true?

a) A secant and a chord are same
b) A tangent is the limiting case of a secant
c) A secant has two end points
d) A diameter is a limiting case of a chord
e) A radius is a limiting case of a diameter

(i) {e,a,b} (ii) {c,d} (iii) {a,b} (iv) {c,d,b} (v) {b,d}

---

40. Which of the following statements are true?

a) Only two tangents can be drawn from a point outside the circle
b) Only one tangent can be drawn through a point on a circle
c) Atmost one tangent can be drawn through a point inside the circle
d) The sides of a triangle can be tangents to a circle
e) Two tangents to a circle always intersect

(i) {c,e,d} (ii) {a,b,d} (iii) {c,a,b} (iv) {e,b} (v) {c,a}

---

41. The point of intersection of the angular bisectors of a triangle is

(i) orthocentre (ii) excentre (iii) circumcentre (iv) incentre (v) centroid

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42. The angle subtended by the semicircle at the centre is

(i) 210° (ii) 180° (iii) 195° (iv) 190° (v) 185°

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43. The angle subtended by the diameter at any point on the circle is

(i) 105° (ii) 95° (iii) 100° (iv) 120° (v) 90°

---

44. If the radius of the circumcircle is half the length of a side of the triangle, then the triangle is

(i) acute angled triangle
(ii) equilateral triangle
(iii) right angle triangle
(iv) obtuse angled triangle

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45. Circles having common centre are called

(i) intersecting circles
(ii) congruent circles
(iii) concentric circles
(iv) similar circles

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46. If two circles are concentric, then

(i) their centres are same
(ii) their perimeters are same
(iii) their radii are same
(iv) their diameters are same

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47. Which of the following figures represent a chord ?

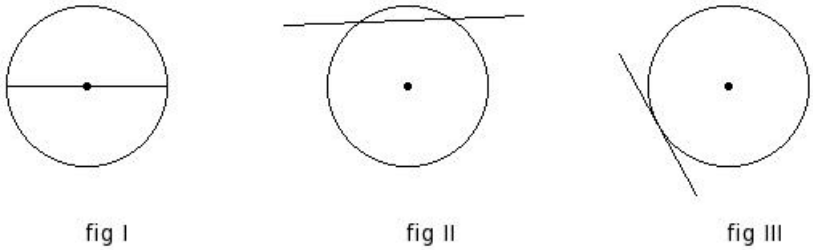

fig I fig II fig III

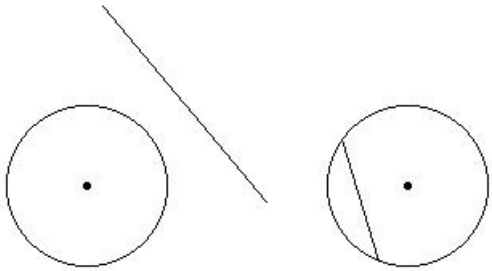

fig IV fig V

(i) fig IV (ii) fig II (iii) fig III (iv) fig I (v) fig V

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48. Which of the following figures represent a diameter ?

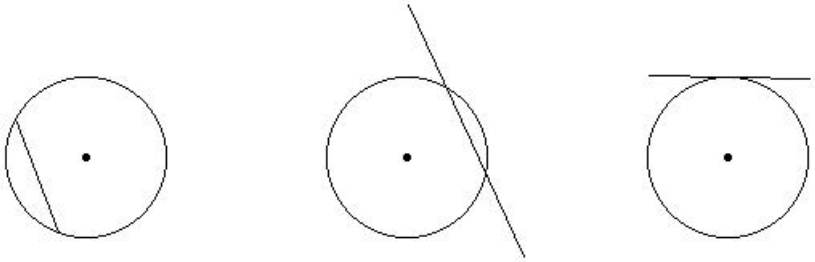

fig I fig II fig III

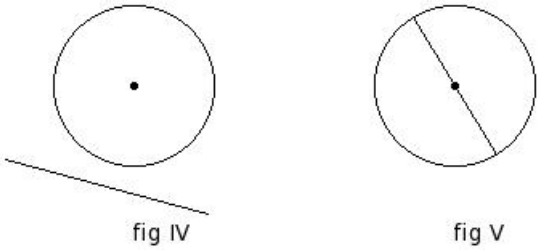

fig IV fig V

(i) fig IV (ii) fig V (iii) fig II (iv) fig III (v) fig I

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49. Which of the following figures represent a secant ?

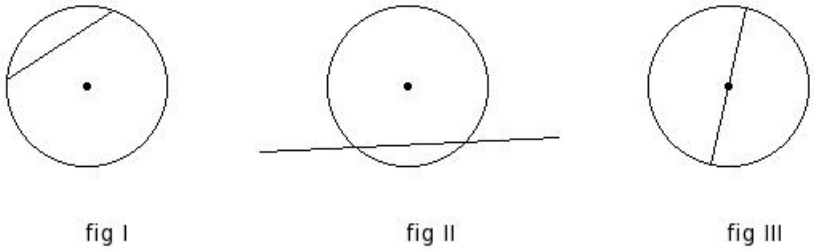

fig I fig II fig III

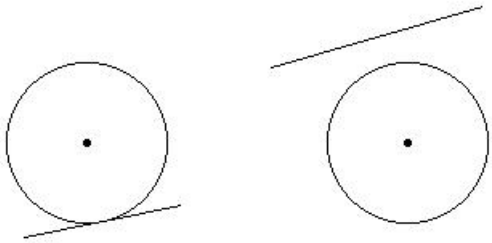

fig IV fig V

(i) fig II (ii) fig I (iii) fig V (iv) fig IV (v) fig III

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50. Which of the following figures represent a tangent ?

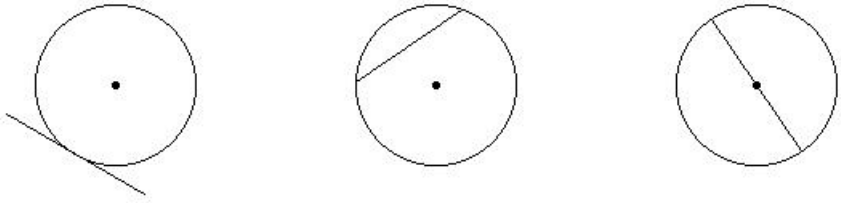

fig I fig II fig III

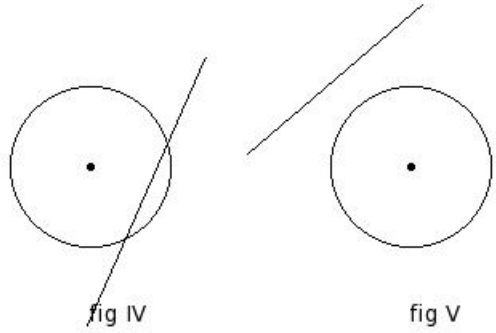

fig IV fig V

(i) fig IV (ii) fig III (iii) fig V (iv) fig II (v) fig I

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51. Which of the following statements are true?

a) All chords of a circle are diameters

b) $\frac{22}{7}$ is a rational number

c) π is a rational number

d) All diameters of a circle are chords

e) A circle divides the plane into three mutually disjoint sets of points

(i) {b,d,e} (ii) {a,c,e} (iii) {c,d} (iv) {a,b} (v) {a,b,d}

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52. Points which lie on the circumference of the circle are called

(i) Concurrent points

(ii) Coincident points

(iii) Cyclic points

(iv) Concyclic points

(v) Similar points

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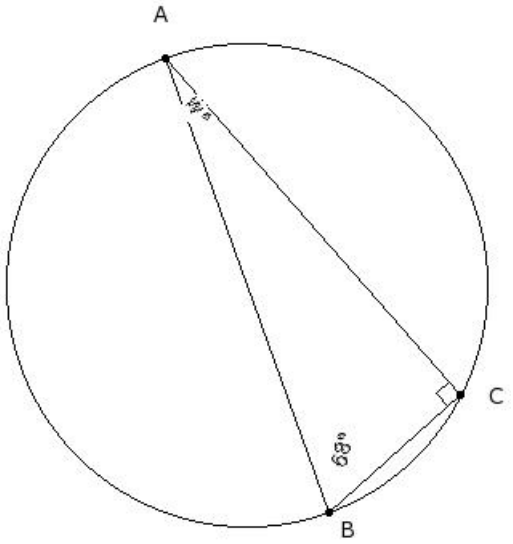
53. Find the missing angle in the following figure?



(i) 37° (ii) 52° (iii) 22° (iv) 32° (v) 27°

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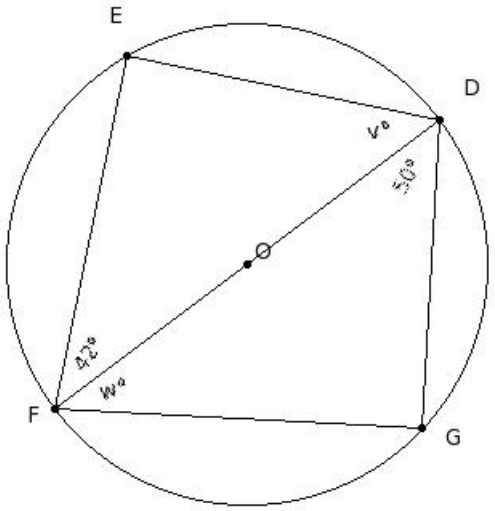
54. O is the centre of the circle. If ∠DFE = 42° and ∠FDG = 50°, find v°, w°



(i) 48°, 40° (ii) 70°, 68° (iii) 30°, 48° (iv) 40°, 48° (v) 50°, 58°

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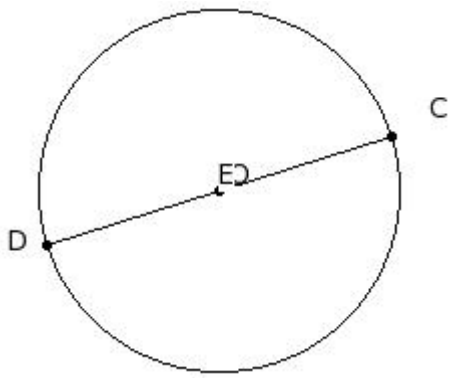
55. If a chord CD = 18 cm is drawn in a circle with radius OC = 9 cm, find its distance from the centre of the circle



(i) 8.00 cm (ii) 7.00 cm (iii) 2.00 cm (iv) 0.00 cm (v) 1.00 cm

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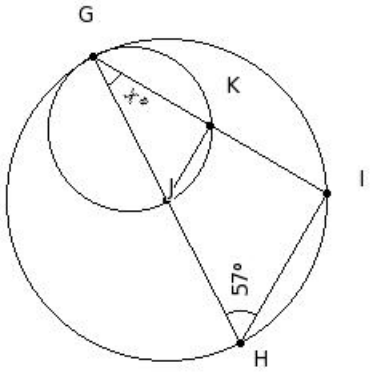
56. Two circles touch internally. J is the centre of the bigger circle and lies on the smaller circle. If ∠GHI = 57°, find ∠G



(i) 43° (ii) 63° (iii) 48° (iv) 38° (v) 33°

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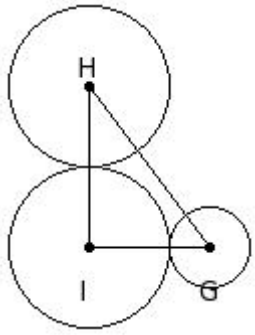
57. 'G' and 'H' are centres of circles of radii 2 cm and 4 cm such that GH = 10 cm and 'I' is the centre of the circle of radius 'r' cm which touches the above circles externally. If ∠GIH = 90°, find 'r'



(i) 6 cm (ii) 2 cm (iii) 4 cm (iv) 3 cm (v) 5 cm

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58. With the vertices of a triangle △IJK as centres, three circles are drawn touching each other externally. If the sides of the triangle are 7 cm , 13 cm and 10 cm , find the radii of the circles

(i) 7 cm , 10 cm & 13 cm respectively

(ii) 2 cm , 5 cm & 8 cm respectively

(iii) 2 cm , 10 cm & 8 cm respectively

(iv) 2 cm , 5 cm & 13 cm respectively

(v) 7 cm , 5 cm & 8 cm respectively

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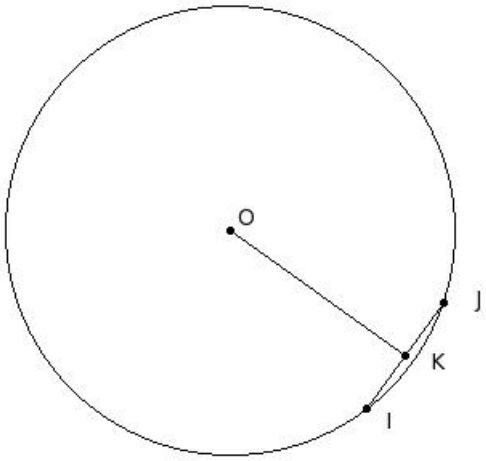
59. In the given figure, O is the centre of the circle. K is a point on chord IJ such that IK = KJ. Find ∠OKI



(i) 100° (ii) 120° (iii) 105° (iv) 95° (v) 90°

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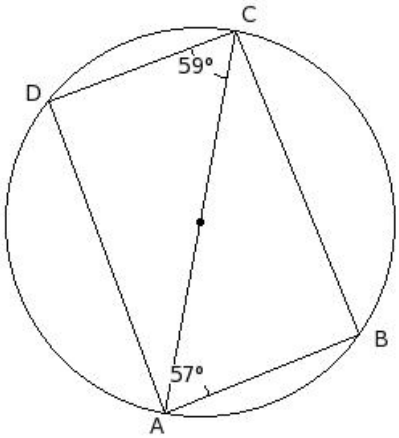
60. In the given figure, find the angles of the quadrilateral



(i) A = 87° , B = 90° , C = 93° , D = 90°

(ii) A = 89° , B = 90° , C = 91° , D = 90°

(iii) A = 90° , B = 90° , C = 90° , D = 90°

(iv) A = 88° , B = 90° , C = 92° , D = 90°

(v) A = 86° , B = 90° , C = 94° , D = 90°

Assignment Key

1) (v)
2) (i)
3) (i)
4) (iv)
5) (ii)
6) (v)
7) (iv)
8) (ii)
9) (i)
10) (v)
11) (iv)
12) (iii)
13) (i)
14) (i)
15) (iii)
16) (v)
17) (ii)
18) (ii)
19) (v)
20) (iii)
21) (i)
22) (v)
23) (iv)
24) (iv)
25) (i)
26) (v)
27) (iii)
28) (ii)
29) (iv)
30) (i)
31) (iv)
32) (iv)
33) (ii)
34) (ii)
35) (v)
36) (i)
37) (i)
38) (ii)
39) (v)
40) (ii)
41) (iv)
42) (ii)
43) (v)
44) (iii)
45) (iii)
46) (i)
47) (v)
48) (ii)
49) (i)
50) (v)
51) (i)
52) (iv)
53) (iii)
54) (i)
55) (iv)

56) (v)
57) (iii)
58) (ii)
59) (v)
60) (iv)