EduSahara™ Assignment

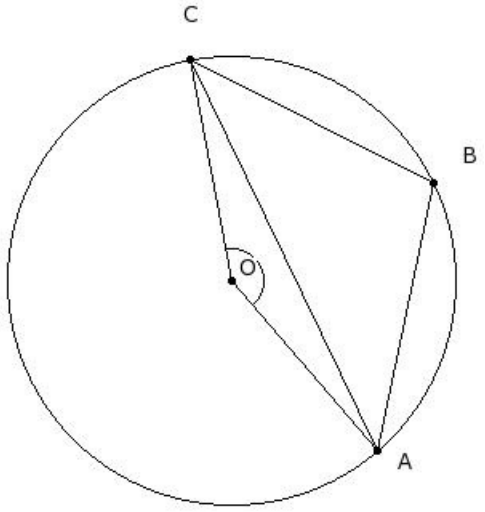
Name : Angle Properties of Circles

Chapter : Circles

Grade : CBSE Grade IX

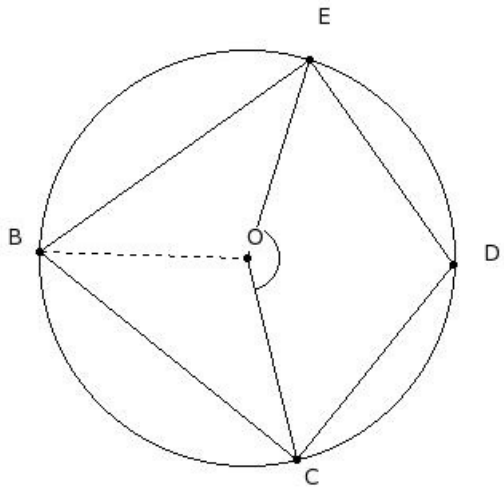
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1. O is the centre of the circle. If $\angle O = 150°$, find $\angle B$



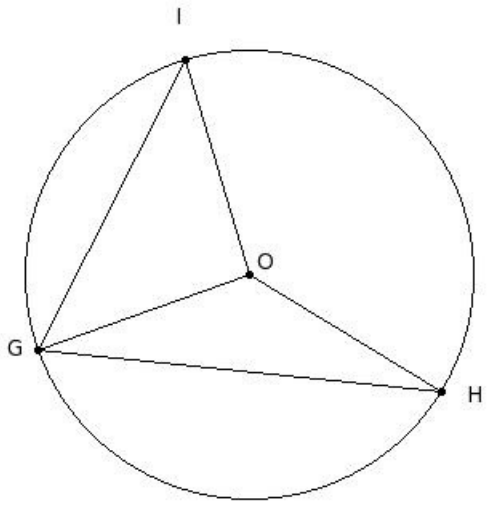
(i) 115° (ii) 120° (iii) 110° (iv) 135° (v) 105°

2. O is the centre of the circle. If $\angle COE = 149°$, find $\angle B$



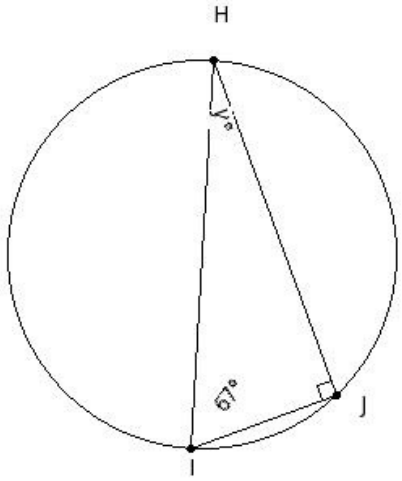
(i) 74.5° (ii) 84.5° (iii) 89.5° (iv) 104.5° (v) 79.5°

3. O is the centre of the circle. If ∠HOG = 129° and ∠IOG = 93°, find ∠HGI



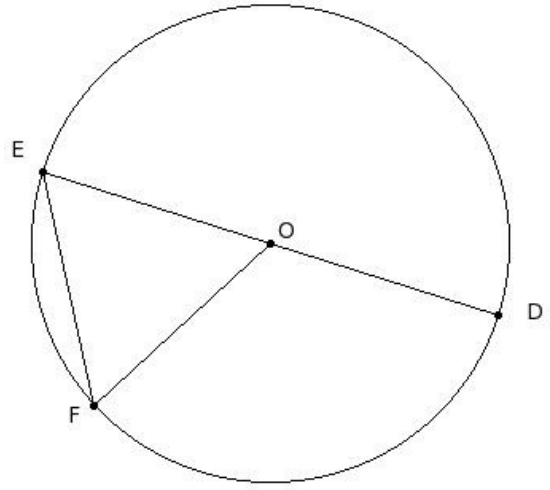
(i) 74° (ii) 99° (iii) 79° (iv) 84° (v) 69°

4. Find the missing angle in the following figure?



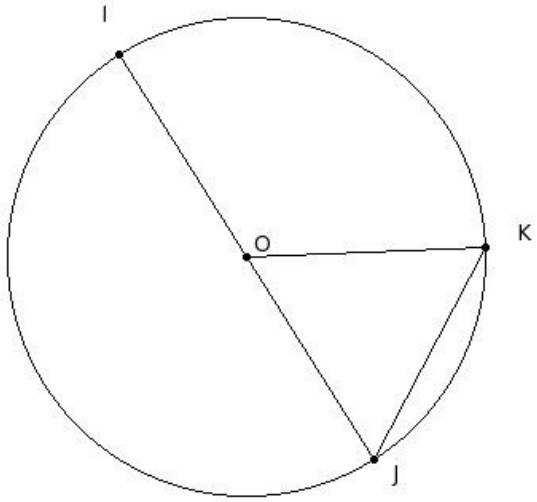
(i) 23° (ii) 53° (iii) 33° (iv) 28° (v) 38°

5. O is the centre of the circle and OF = EF. Find ∠EOF



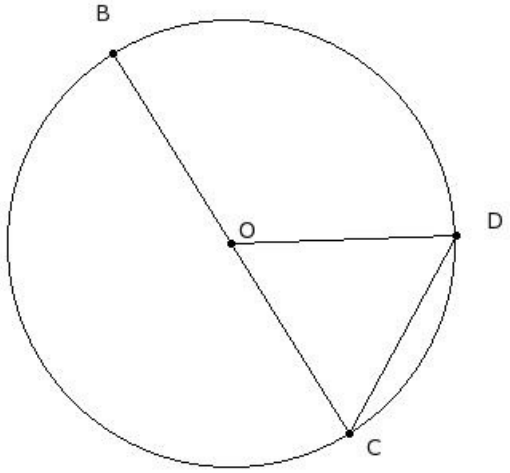
(i) 65° (ii) 75° (iii) 60° (iv) 70° (v) 90°

6. O is the centre of the circle and OK = JK. Find ∠KOI



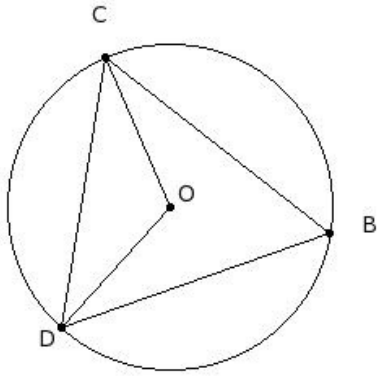
(i) 130° (ii) 125° (iii) 150° (iv) 120° (v) 135°

7. O is the centre of the circle and OD = CD. Find reflex ∠DOB



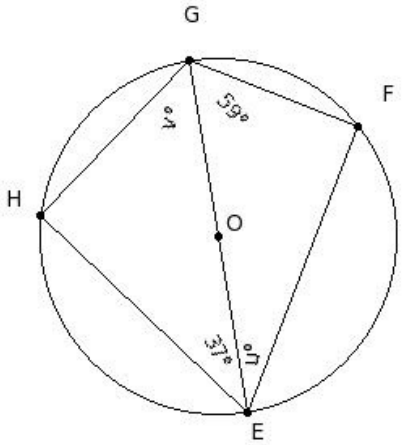
(i) 255° (ii) 240° (iii) 245° (iv) 250° (v) 270°

8. O is the centre of the circle. If $\angle B + \angle COD = 171°$, find $\angle COD$



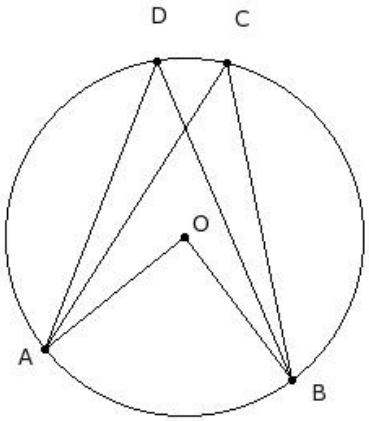
(i) 124° (ii) 144° (iii) 129° (iv) 119° (v) 114°

9. O is the centre of the circle. If ∠EGF = 59° and ∠GEH = 37°, find u°, v°



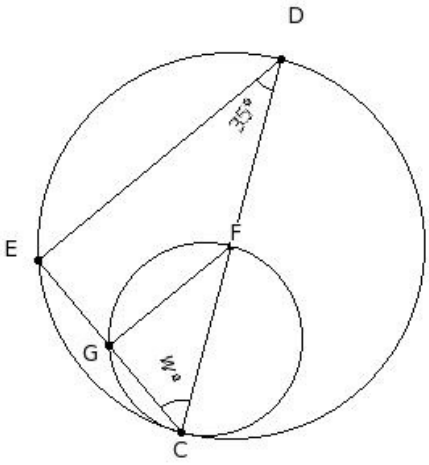
(i) 53°, 32° (ii) 32°, 53° (iii) 83°, 52° (iv) 63°, 42° (v) 43°, 32°

10. O is the centre of the circle. If ∠AOB = 88°, find the angle ∠D



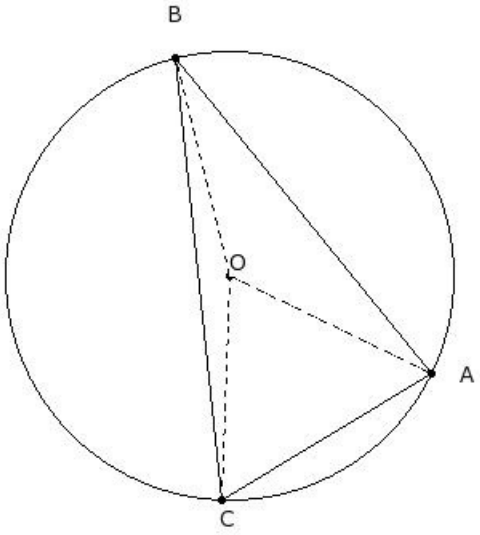
(i) 49° (ii) 59° (iii) 74° (iv) 44° (v) 54°

11. Two circles touch internally. F is the centre of the bigger circle and lies on the smaller circle. If ∠CDE = 35°, find ∠C



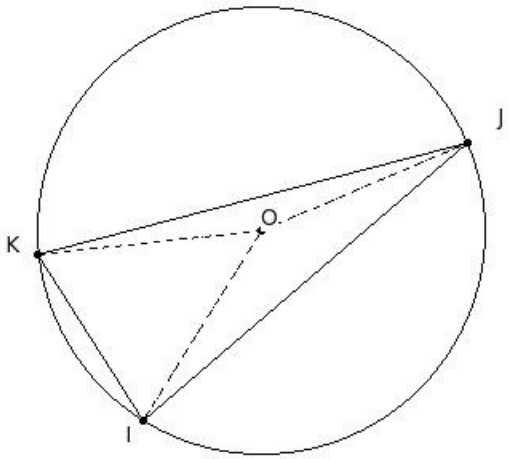
(i) 55° (ii) 70° (iii) 85° (iv) 60° (v) 65°

12. △ABC is inscribed in a circle with centre O. If ∠AOB = 130° and ∠BOC = 164°, find ∠CAB



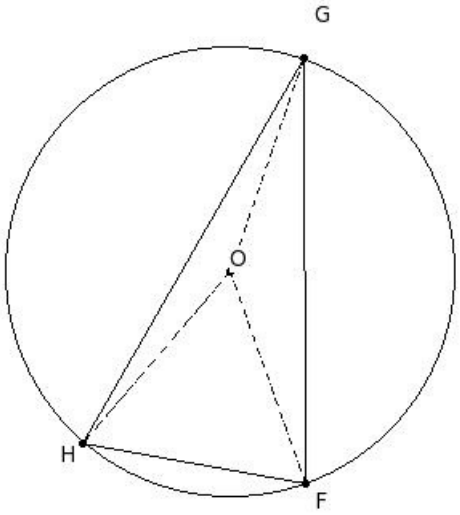
(i) 87° (ii) 92° (iii) 97° (iv) 112° (v) 82°

13. △IJK is inscribed in a circle with centre O. If ∠IOJ = 145° and ∠JOK = 163°, find ∠IJK



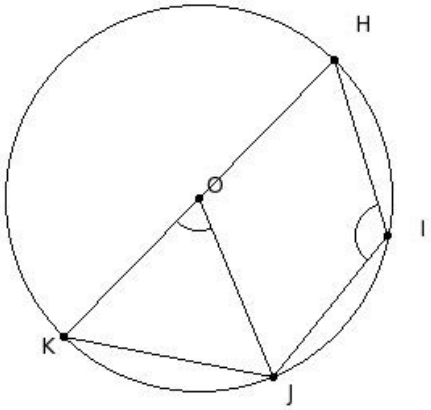
(i) 31° (ii) 56° (iii) 26° (iv) 36° (v) 41°

14. △FGH is inscribed in a circle with centre O. If ∠FOG = 141° and ∠GOH = 158°, find ∠GHF



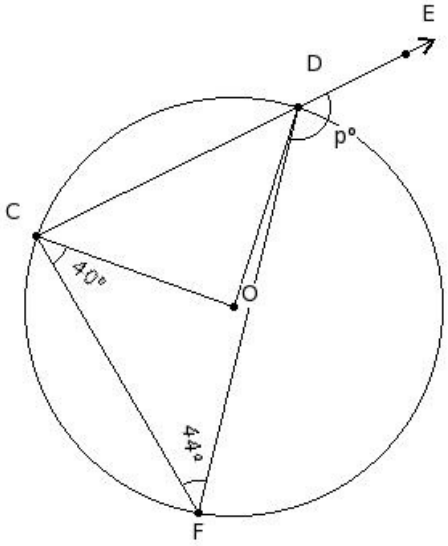
(i) 85.5° (ii) 100.5° (iii) 75.5° (iv) 80.5° (v) 70.5°

15. O is the centre of the circle. If ∠HIJ = 123.5°, find ∠JOK



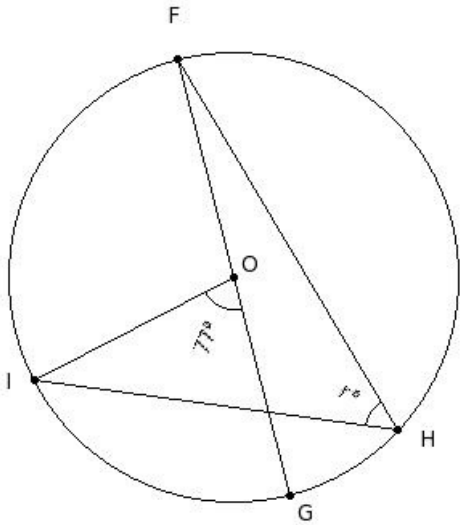
(i) 67° (ii) 82° (iii) 72° (iv) 77° (v) 97°

16. In the given figure, O is the centre of the circle. If ∠CFD = 44° and ∠OCF = 40°, find ∠EDF



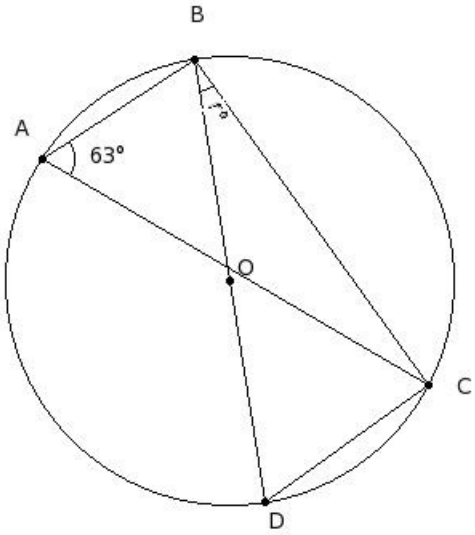
(i) 140° (ii) 145° (iii) 135° (iv) 160° (v) 130°

17. In the given figure, O is the centre of the circle and FG is a diameter. If ∠GOI = 77°, find ∠FHI



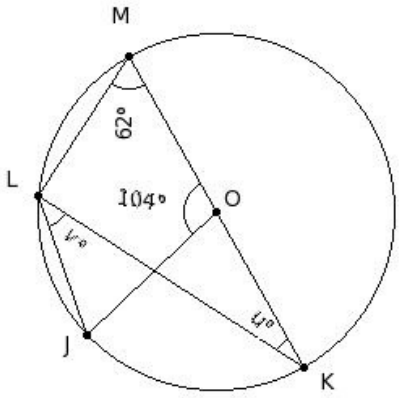
(i) 56.5° (ii) 51.5° (iii) 81.5° (iv) 66.5° (v) 61.5°

18. In the given figure, O is the centre of the circle and BD is a diameter. If ∠CAB = 63°, find ∠CBD



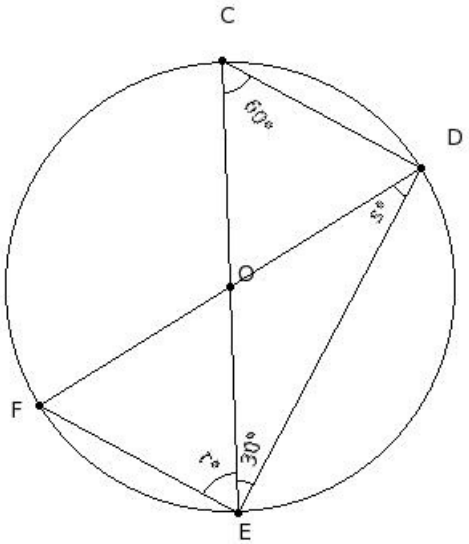
(i) 37° (ii) 27° (iii) 57° (iv) 42° (v) 32°

19. In the given figure, O is the centre of the circle and KM is a diameter. If ∠JOM = 104° and ∠OML = 62°, find ∠KLJ + ∠LKM



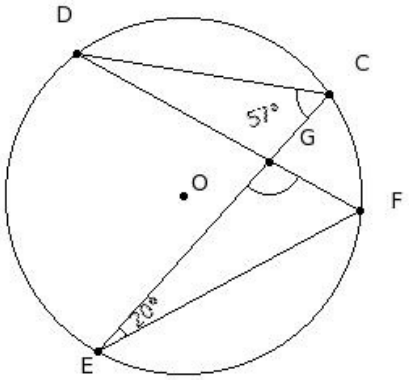
(i) 71° (ii) 96° (iii) 81° (iv) 66° (v) 76°

20. In the given figure, O is the centre of the circle and DF is a diameter. If ∠CED = 30° and ∠DCE = 60°, find ∠FDE + ∠CEF



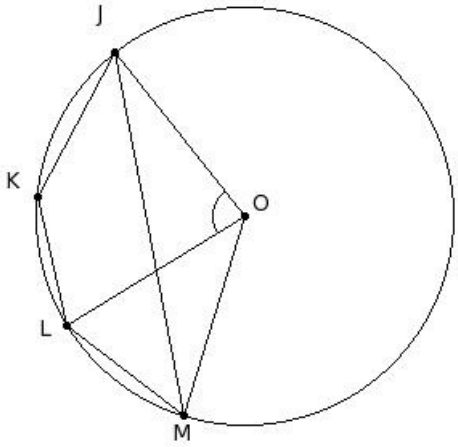
(i) 120° (ii) 105° (iii) 100° (iv) 90° (v) 95°

21. In the given figure, O is the centre of the circle. If ∠DCE = 57° and ∠CEF = 20°, find ∠EGF



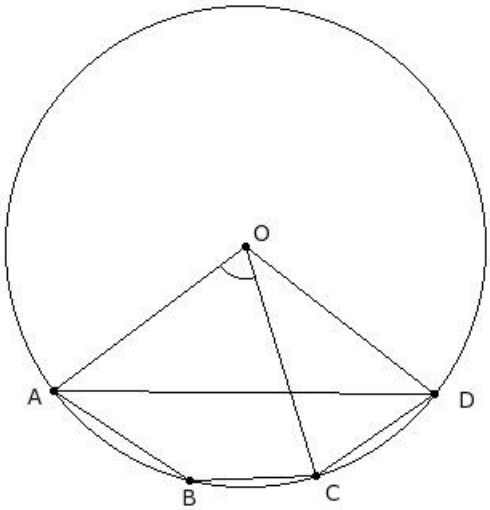
(i) 133° (ii) 113° (iii) 118° (iv) 108° (v) 103°

22. O is the centre of the circle. If Arc JL = 2 Arc LM and ∠JOL = 83°, find ∠JML



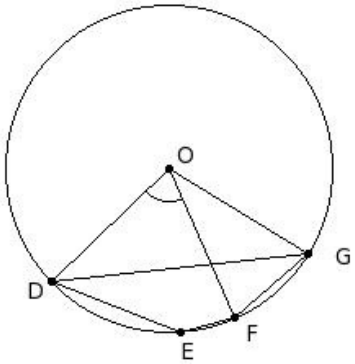
(i) 51.5° (ii) 46.5° (iii) 41.5° (iv) 71.5° (v) 56.5°

23. O is the centre of the circle. If Arc AC = 2 Arc CD and ∠AOC = 70°, find ∠DAC



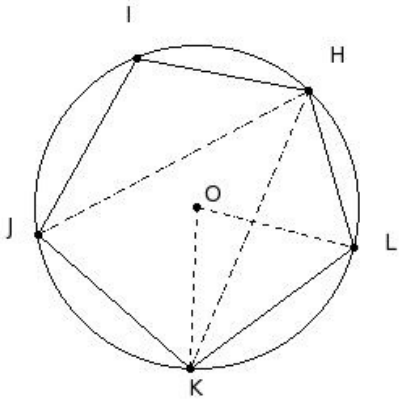
(i) 17.5° (ii) 47.5° (iii) 22.5° (iv) 32.5° (v) 27.5°

24. O is the centre of the circle. If Arc DF = 2 Arc FG and ∠DOF = 70°, find ∠DEF



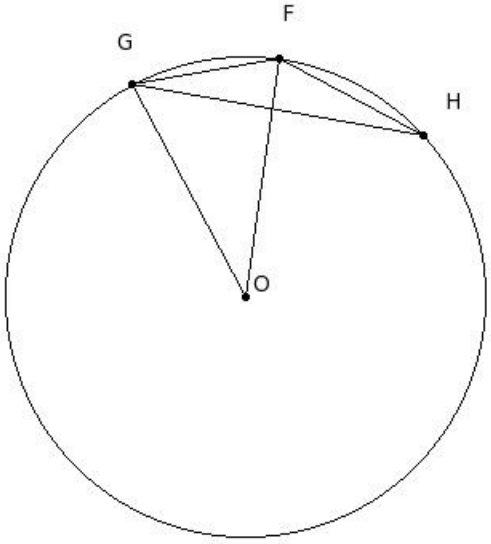
(i) 175° (ii) 155° (iii) 150° (iv) 145° (v) 160°

25. In the given figure, a pentagon is inscribed in a circle with centre O. Given IJ = JK = KL and ∠IJK = 102°. Find ∠KOL



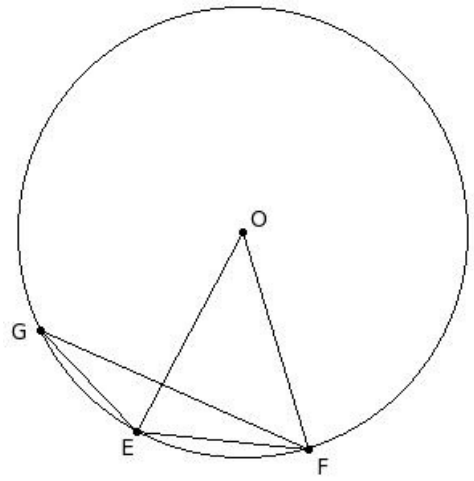
(i) 108° (ii) 78° (iii) 93° (iv) 83° (v) 88°

26. In the given figure, FG is a side of regular 9-sided polygon and FH is a side of regular 10-sided polygon inscribed in a circle with centre O. Find ∠FOG



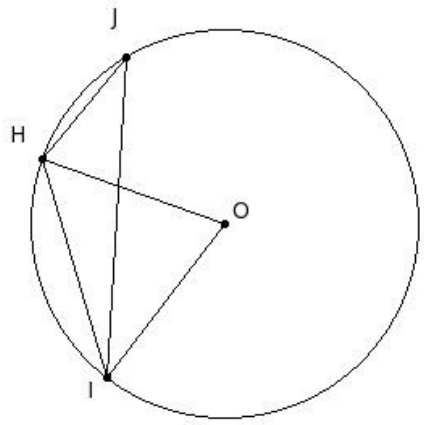
(i) 45° (ii) 50° (iii) 70° (iv) 40° (v) 55°

27. In the given figure, EF is a side of regular 10-sided polygon and EG is a side of regular 8-sided polygon inscribed in a circle with centre O. Find ∠EGF



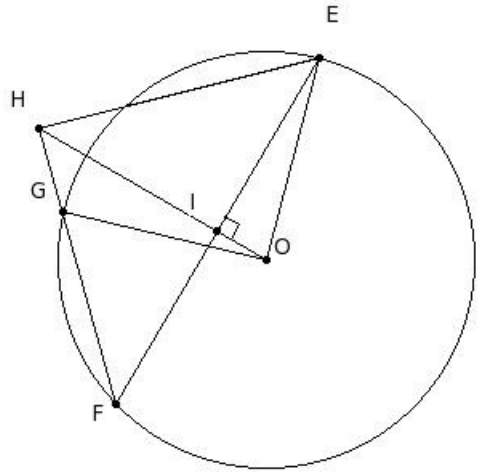
(i) 28° (ii) 18° (iii) 33° (iv) 48° (v) 23°

28. In the given figure, HI is a side of regular 9-sided polygon and HJ is a side of regular 5-sided polygon inscribed in a circle with centre O. Find ∠HIJ



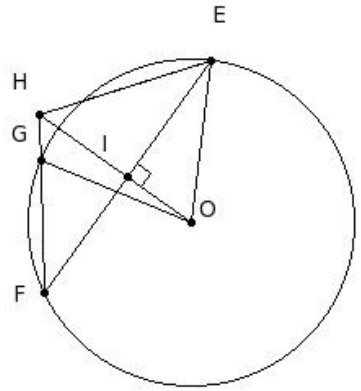
(i) 51° (ii) 41° (iii) 36° (iv) 46° (v) 66°

29. In the given figure, O is the centre of the circle, and OI ⊥ EF. If ∠EFG = 45.5°, find ∠EOG



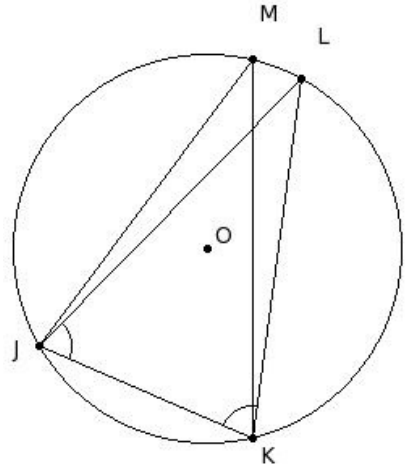
(i) 106° (ii) 101° (iii) 91° (iv) 121° (v) 96°

30. In the given figure, O is the centre of the circle, and OI ⊥ EF. If ∠EFG = 37.5°, find ∠OHG



(i) 52.5° (ii) 62.5° (iii) 57.5° (iv) 67.5° (v) 82.5°

31. In the given figure, O is the centre of the circle. If ∠LJK = 68.88° and ∠JKL = 74.34°, find the angle ∠JMK



(i) 41.78° (ii) 46.78° (iii) 51.78° (iv) 36.78° (v) 66.78°

32. Which of the following statements are true?

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

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

33. Which of the following statements are true?

a) Angles in the opposite segments are complementary.
b) Angles subtended by equal length arcs in two circles are equal.
c) Angles in the same segment are equal.
d) Angles in the opposite segments are supplementary.

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

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

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

35. If an arc subtends an angle of x° in its alternate segment, then the angle is subtends at the centre is

(i) x° (ii) 2x° (iii) 4x° (iv) $\frac{x°}{2}$

36. An arc subtends 90° in its alternate segment. The arc is

(i) semi-circle (ii) major arc (iii) minor arc (iv) quadrant (v) minor segment

37. An arc subtends 140° in its alternate segment. The arc is

(i) major arc (ii) semi-circle (iii) minor segment (iv) major segment (v) minor arc

38. An arc subtends 66° in its alternate segment. The arc is

(i) quadrant (ii) minor segment (iii) major segment (iv) major arc (v) minor arc

39. An arc subtends 40° in its alternate segment. Its corresponding major arc subtends what angle in its (major arc) alternate segment?

(i) 170° (ii) 145° (iii) 150° (iv) 155° (v) 140°

40. An arc subtends 35° in its alternate segment. The angle made by its corresponding major arc at the centre is

(i) 290° (ii) 295° (iii) 320° (iv) 300° (v) 305°

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

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

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

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

43. Angle subtended by the major arc at the centre is

(i) right angle (ii) complete angle (iii) reflex angle (iv) straight angle (v) zero angle

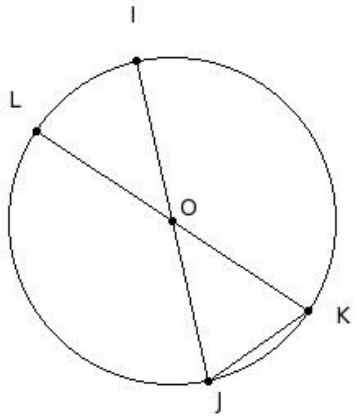
44. Angle subtended in the major segment is

(i) obtuse angle (ii) acute angle (iii) zero angle (iv) straight angle (v) right angle

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

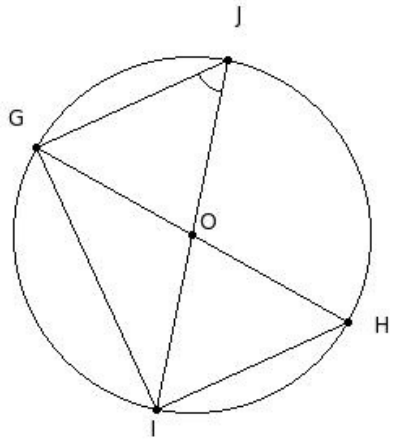
(i) acute angled triangle (ii) right angle triangle (iii) equilateral triangle (iv) obtuse angled triangle

46. In the given figure, IJ & KL are diameters of the circle. If ∠IJK = 68° find, ∠JOK



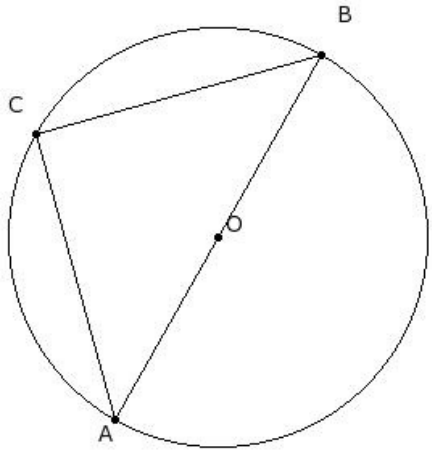
(i) 49° (ii) 54° (iii) 74° (iv) 59° (v) 44°

47. In the given figure, GH & IJ are diameters of the circle. If ∠GJI = 54°, find ∠OIH



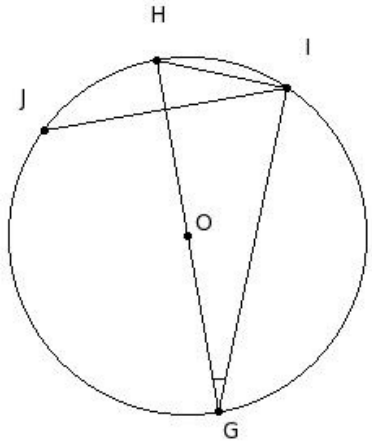
(i) 69° (ii) 59° (iii) 84° (iv) 64° (v) 54°

48. In the given figure AC & BC are equal length chords of the circle. Find ∠CAB



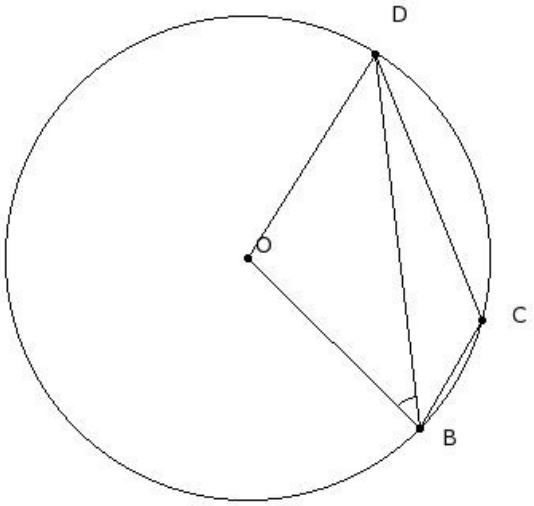
(i) 60° (ii) 45° (iii) 75° (iv) 55° (v) 50°

49. In the given figure, GH is a diameter of the circle with centre O. If ∠HGI = 21.9° and HI = HJ, find ∠JIG



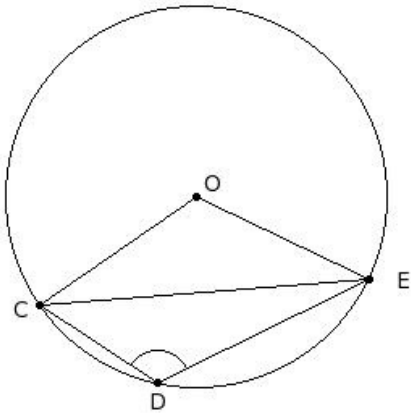
(i) 78.1° (ii) 73.1° (iii) 98.1° (iv) 68.1° (v) 83.1°

50. In the given figure, O is the centre of the circle. If ∠OBD = 38.5°, find ∠C



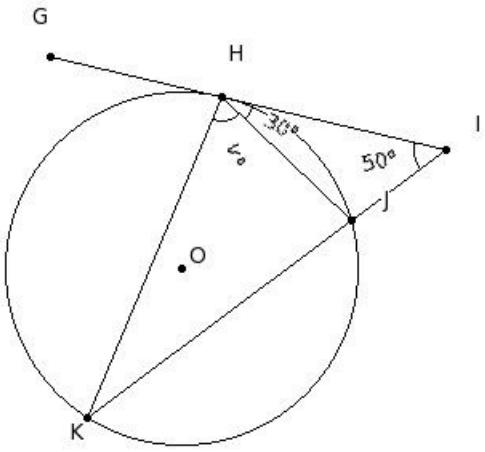
(i) 138.5° (ii) 128.5° (iii) 133.5° (iv) 158.5° (v) 143.5°

51. In the given figure, O is the centre of the circle. If ∠CDE = 121°, find ∠OCE



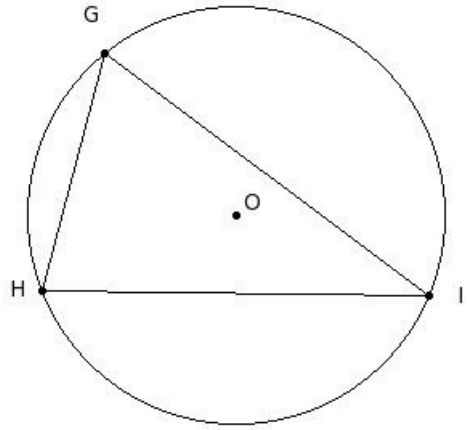
(i) 46° (ii) 36° (iii) 31° (iv) 61° (v) 41°

52. In the given figure, O is the centre of the circle and GI is the tangent at H. If ∠HIJ = 50°,∠IHJ = 30°, find ∠KHJ



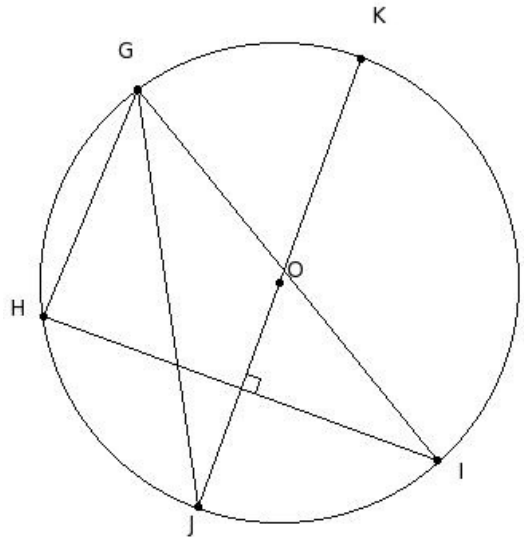
(i) 75° (ii) 80° (iii) 70° (iv) 85° (v) 100°

53. O is the centre of the circle. If ∠HIG = 36°, find the angle ∠OHG



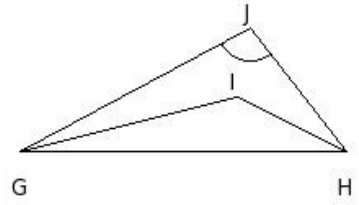
(i) 59° (ii) 84° (iii) 64° (iv) 54° (v) 69°

54. JK is the perpendicular bisector of side HI of △GHI. Given ∠GHI = 87° and ∠JGI = 31° , find ∠GIH



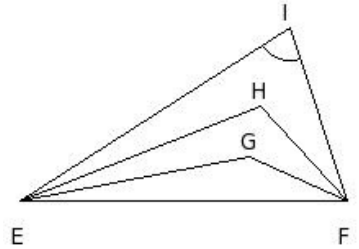
(i) 46° (ii) 36° (iii) 31° (iv) 61° (v) 41°

55. In the given figure, △JGH is a scalene triangle. IG bisects ∠JGH. Similarly HI bisects ∠GHJ. Given ∠HJG = 100°, find ∠HIG



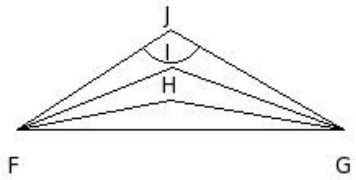
(i) 170° (ii) 145° (iii) 150° (iv) 140° (v) 155°

56. In the given figure, △IEF is a scalene triangle. GE & HE trisect ∠IEF. Similarly FG & FH trisect ∠EFI. Given ∠FIE = 75°, find ∠FGE



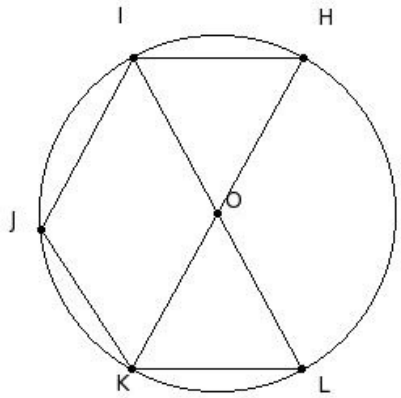
(i) 175° (ii) 145° (iii) 155° (iv) 160° (v) 150°

57. In the given figure, △JFG is a scalene triangle. HF & IF trisect ∠JFG. Similarly GH & GI trisect ∠FGJ. Given ∠GJF = 117°, find ∠GIF



(i) 153° (ii) 143° (iii) 168° (iv) 138° (v) 148°

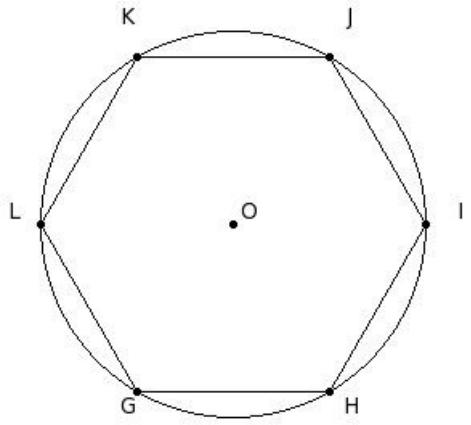
58. In the given figure, HI , IJ , JK and KL are chords and HK , IL are diameters passing through the centre O. If ∠HOI = 57°. Find ∠IJK



(i) 148.5° (ii) 133.5° (iii) 128.5° (iv) 118.5° (v) 123.5°

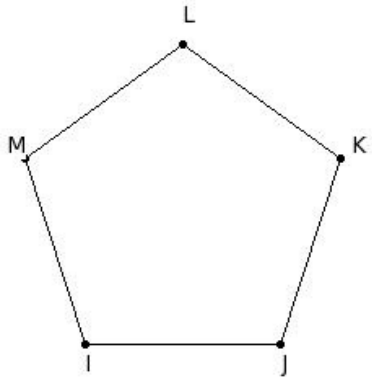
59. In the given figure, GHIJKL is a regular hexagon inscribed in a circle with centre O. Which of the following are true?

a) ∠HOJ = 120°
b) ∠GOL = 60°
c) ∠GIH = 60°
d) ∠HKI = 30°
e) ∠LJI = 90°



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

60. In the given figure, IJKLM is a regular pentagon . Find ∠IMK



(i) 87° (ii) 82° (iii) 77° (iv) 72° (v) 102°

61. Which of the following statements are true?

a) Angle subtended in the major segment is obtuse.
b) The angle subtended in a semicircle is a right angle.
c) Angle subtended by the major arc at the centre is acute.
d) Angle subtended by the major arc in its alternate segment is obtuse.
e) If two chords are equal, then they are equidistant from the centre of the circle.

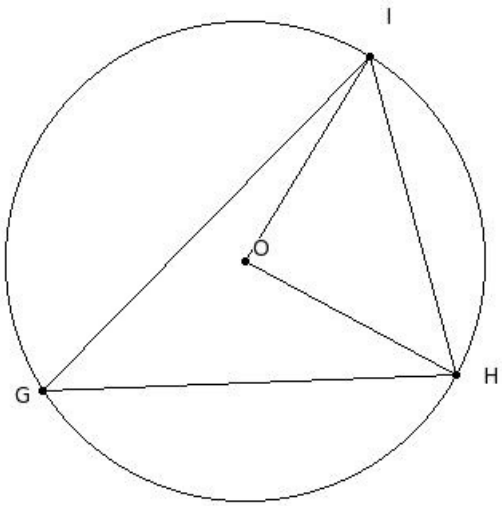
(i) {b,d,e} (ii) {a,b,d} (iii) {a,c,e} (iv) {c,d} (v) {a,b}

62. In triangle IJK, if a circle is drawn with JK as diameter and if it passes through I it is a

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

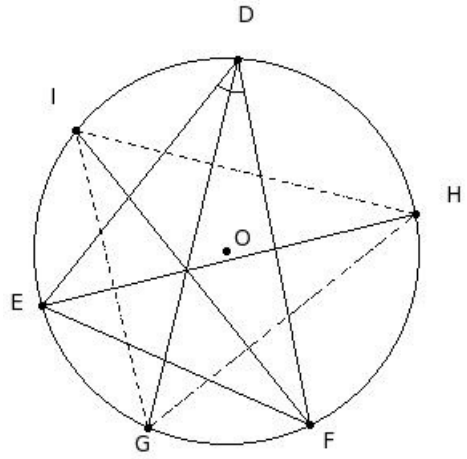
63. In the given figure, which of the following are true?

a) $\angle G + \angle HOI = 180°$
b) $\angle G + \angle OHI = 90°$
c) $\angle G + \angle OIH = 90°$
d) $\angle G + \angle OHI = 120°$
e) $\angle G + \angle OHI + \angle OIH = 2\angle G$



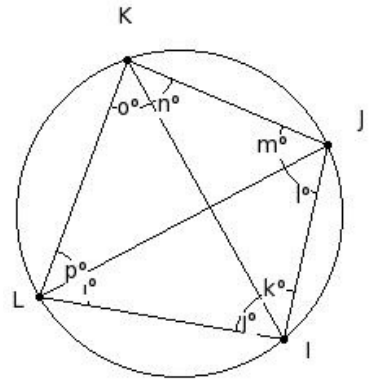
(i) {e,a,b} (ii) {d,c} (iii) {d,c,b} (iv) {b,c} (v) {a,b}

64. In the given figure, the bisectors of ∠D , ∠E & ∠F of △DEF meet the circumcircle at G , H & I. If ∠D = 50°, find ∠G



(i) 80° (ii) 95° (iii) 70° (iv) 75° (v) 65°

65. In the given figure, which of the following angle pairs are equal?



(i) {(i,n),(l,m),(p,o),(j,k)} (ii) {(i,p),(l,j),(n,k),(m,o)} (iii) {(i,n),(j,m),(k,p),(l,o)} (iv) {(n,m),(l,p),(j,i),(o,k)}

(v) {(o,l),(m,i),(p,j),(n,k)}

Assignment Key

1) (v)	2) (i)	3) (v)	4) (i)	5) (iii)	6) (iv)
7) (ii)	8) (v)	9) (ii)	10) (iv)	11) (i)	12) (v)
13) (iii)	14) (v)	15) (i)	16) (v)	17) (ii)	18) (ii)
19) (iv)	20) (iv)	21) (v)	22) (iii)	23) (i)	24) (iv)
25) (ii)	26) (iv)	27) (ii)	28) (iii)	29) (iii)	30) (i)
31) (iv)	32) (i)	33) (iii)	34) (iii)	35) (ii)	36) (i)
37) (i)	38) (v)	39) (v)	40) (i)	41) (v)	42) (ii)
43) (iii)	44) (ii)	45) (ii)	46) (v)	47) (v)	48) (ii)
49) (iv)	50) (ii)	51) (iii)	52) (iii)	53) (iv)	54) (iii)
55) (iv)	56) (ii)	57) (iv)	58) (iv)	59) (v)	60) (iv)
61) (i)	62) (iv)	63) (iv)	64) (v)	65) (iii)	

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