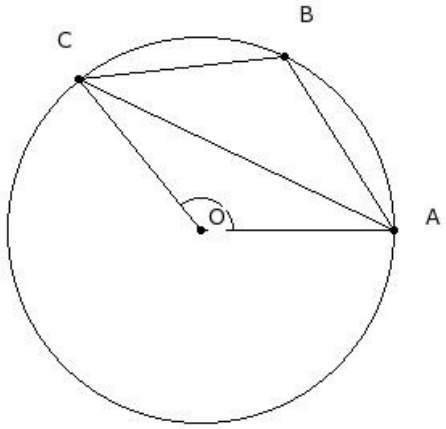
EduSahara™ Assignment

Name : Circles - Angle Properties

Chapter : Circles

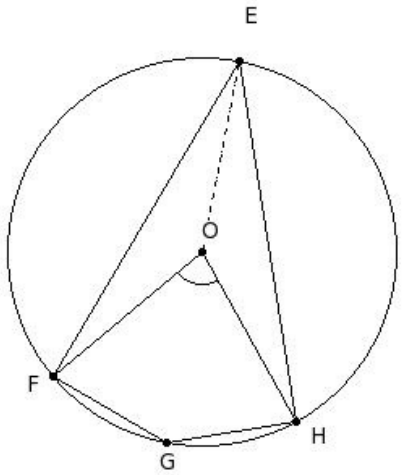
Grade : SSC Grade IX

1. O is the centre of the circle. If $\angle O = 129°$, find $\angle B$



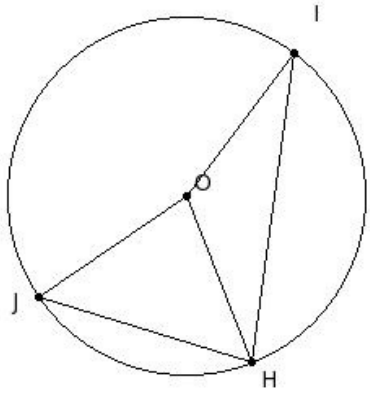
(i) 115.5° (ii) 145.5° (iii) 130.5° (iv) 125.5° (v) 120.5°

2. O is the centre of the circle. If $\angle FOH = 79°$, find $\angle E$



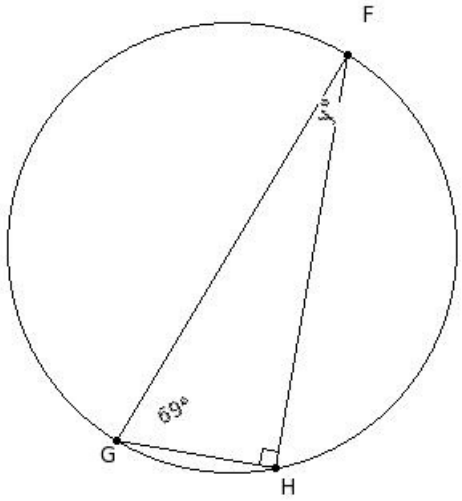
(i) 54.5° (ii) 69.5° (iii) 49.5° (iv) 39.5° (v) 44.5°

3. O is the centre of the circle. If $\angle IOH = 122°$ and $\angle JOH = 77°$, find $\angle IHJ$



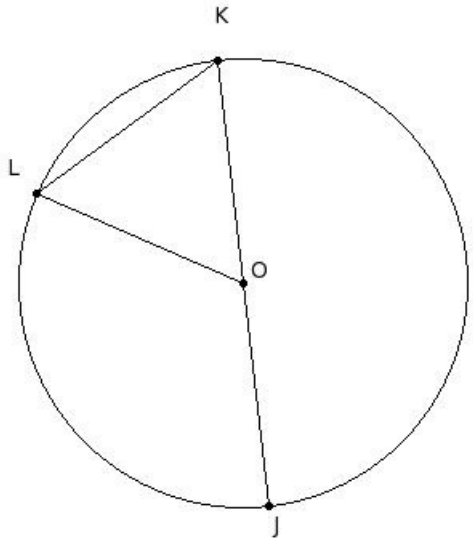
(i) 85.5° (ii) 90.5° (iii) 80.5° (iv) 95.5° (v) 110.5°

4. Find the missing angle in the following figure?



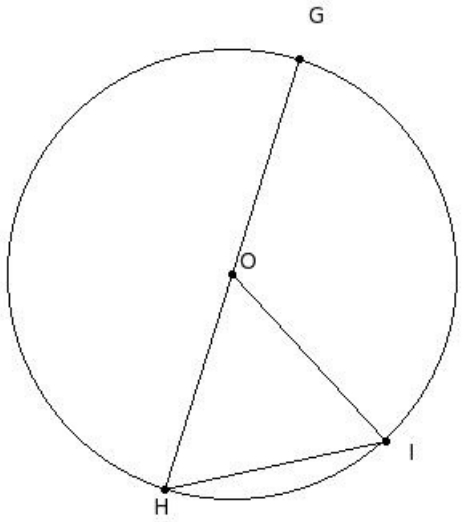
(i) 36° (ii) 21° (iii) 51° (iv) 31° (v) 26°

5. O is the centre of the circle and OL = KL. Find ∠KOL



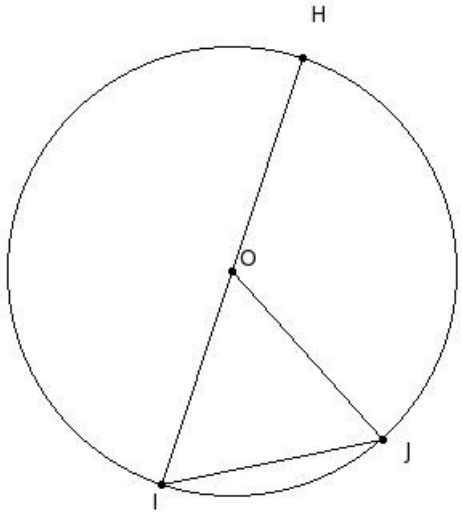
(i) 75° (ii) 90° (iii) 65° (iv) 70° (v) 60°

6. O is the centre of the circle and OI = HI. Find ∠IOG



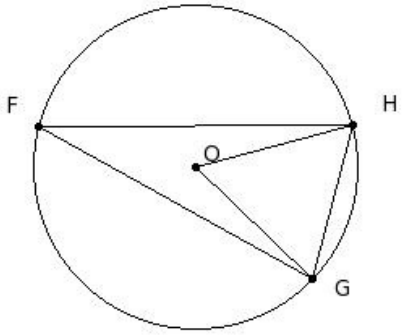
(i) 135° (ii) 125° (iii) 120° (iv) 150° (v) 130°

7. O is the centre of the circle and OJ = IJ. Find reflex ∠JOH



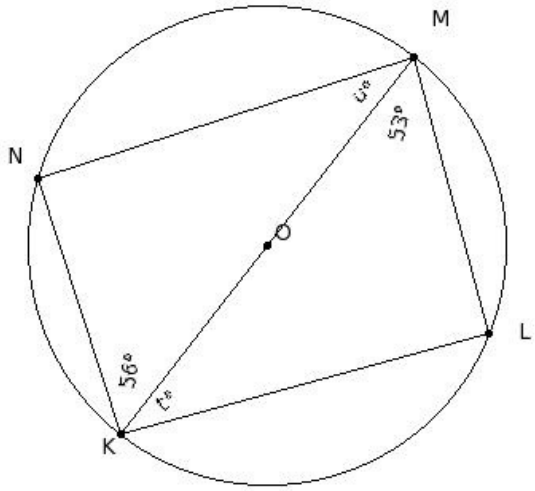
(i) 270° (ii) 250° (iii) 255° (iv) 245° (v) 240°

8. O is the centre of the circle. If $\angle F + \angle GOH = 88.5°$, find $\angle GOH$



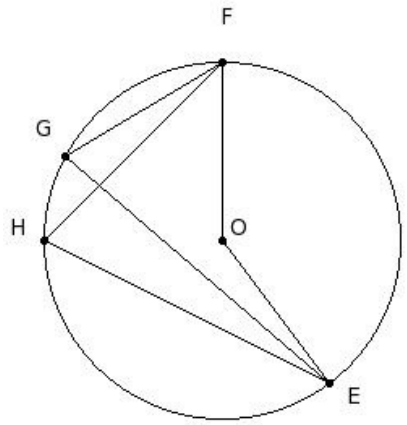
(i) 74° (ii) 59° (iii) 89° (iv) 69° (v) 64°

9. O is the centre of the circle. If ∠KML = 53° and ∠MKN = 56°, find t°, u°



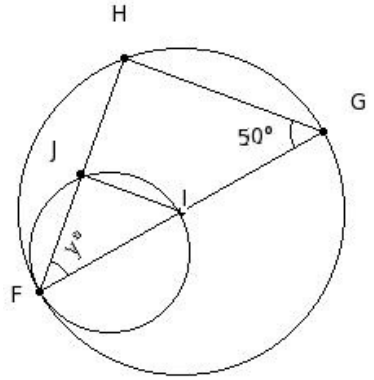
(i) 24°, 37° (ii) 64°, 57° (iii) 34°, 37° (iv) 37°, 34° (v) 44°, 47°

10. O is the centre of the circle. If ∠EOF = 143°, find the angle ∠G



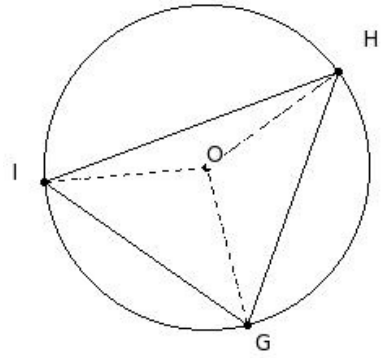
(i) 86.5° (ii) 101.5° (iii) 71.5° (iv) 81.5° (v) 76.5°

11. Two circles touch internally. I is the centre of the bigger circle and lies on the smaller circle. If ∠FGH = 50°, find ∠F



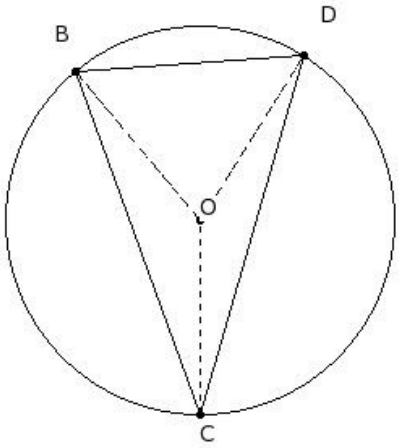
(i) 45° (ii) 70° (iii) 40° (iv) 55° (v) 50°

12. △GHI is inscribed in a circle with centre O. If ∠GOH = 112° and ∠HOI = 149°, find ∠IGH



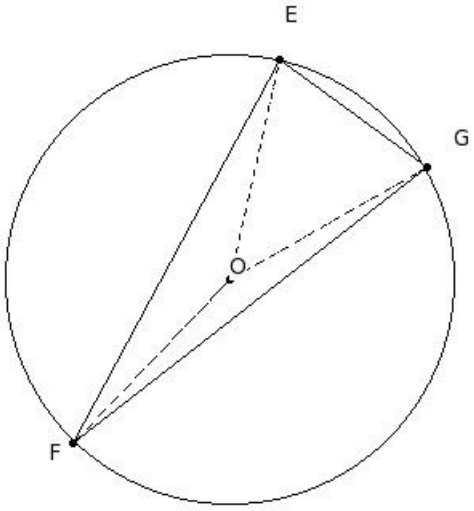
(i) 84.5° (ii) 79.5° (iii) 104.5° (iv) 89.5° (v) 74.5°

13. △BCD is inscribed in a circle with centre O. If ∠BOC = 140° and ∠COD = 148°, find ∠BCD



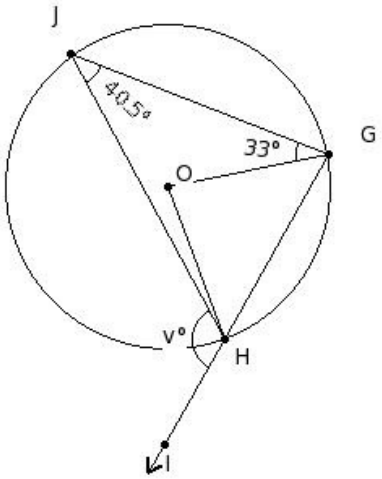
(i) 36° (ii) 51° (iii) 46° (iv) 66° (v) 41°

14. △EFG is inscribed in a circle with centre O. If ∠EOF = 149° and ∠FOG = 164°, find ∠FGE



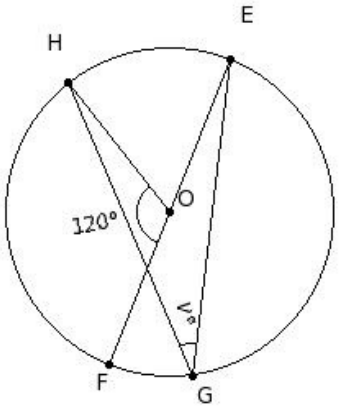
(i) 79.5° (ii) 89.5° (iii) 74.5° (iv) 84.5° (v) 104.5°

15. In the given figure, O is the centre of the circle. If ∠GJH = 40.5° and ∠OGJ = 33°, find ∠IHJ



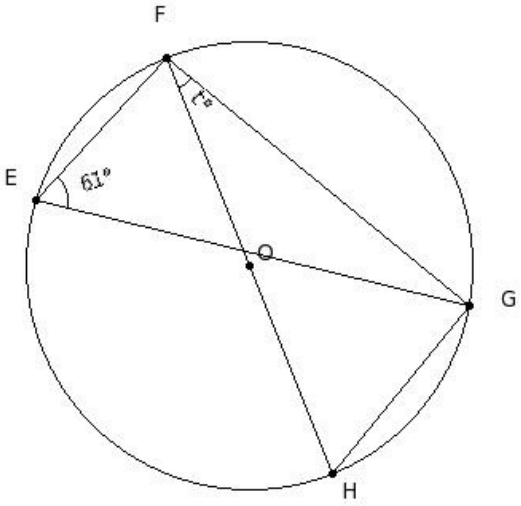
(i) 153° (ii) 123° (iii) 128° (iv) 138° (v) 133°

16. In the given figure, O is the centre of the circle and EF is a diameter. If ∠FOH = 120°, find ∠EGH



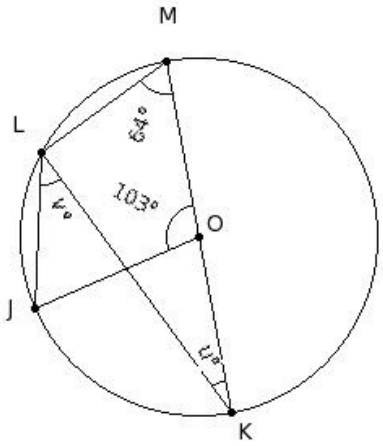
(i) 60° (ii) 35° (iii) 45° (iv) 40° (v) 30°

17. In the given figure, O is the centre of the circle and FH is a diameter. If ∠GEF = 61°, find ∠GFH



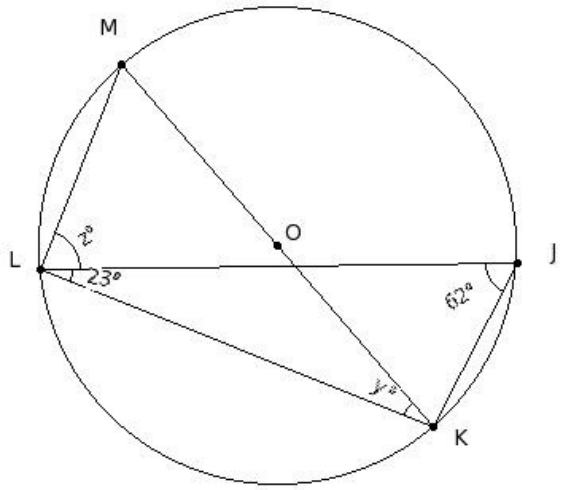
(i) 44° (ii) 29° (iii) 39° (iv) 59° (v) 34°

18. In the given figure, O is the centre of the circle and KM is a diameter. If ∠JOM = 103° and ∠OML = 64°, find ∠KLJ + ∠LKM



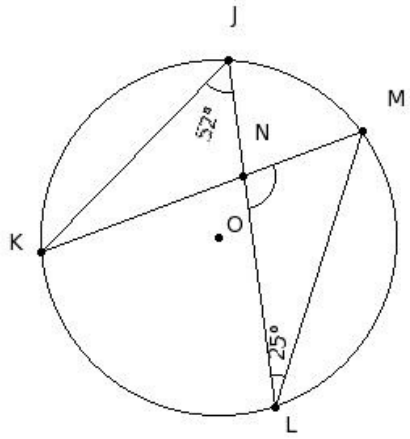
(i) 74.5° (ii) 69.5° (iii) 94.5° (iv) 79.5° (v) 64.5°

19. In the given figure, O is the centre of the circle and KM is a diameter. If ∠JLK = 23° and ∠KJL = 62°, find ∠MKL + ∠JLM



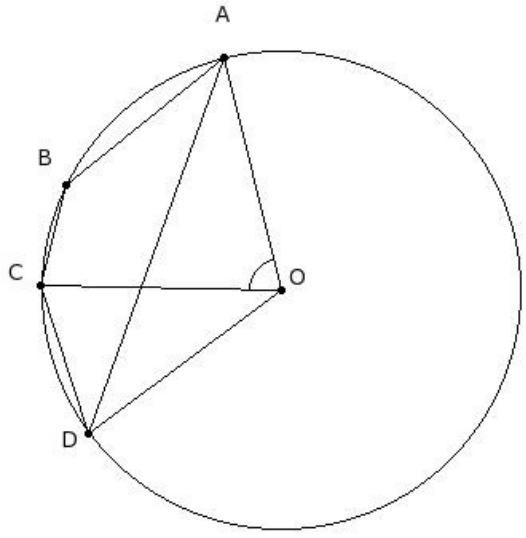
(i) 125° (ii) 95° (iii) 110° (iv) 105° (v) 100°

20. In the given figure, O is the centre of the circle. If ∠KJL = 52° and ∠JLM = 25°, find ∠LNM



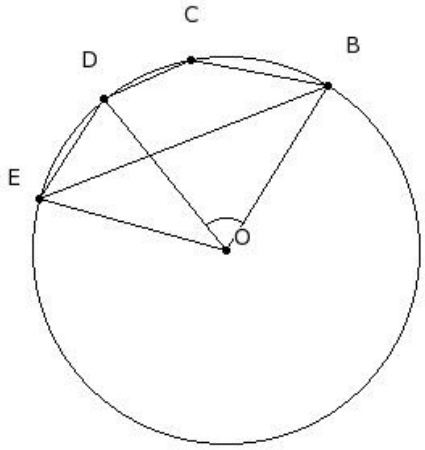
(i) 113° (ii) 133° (iii) 103° (iv) 118° (v) 108°

21. O is the centre of the circle. If Arc AC = 2 Arc CD and ∠AOC = 75°, find ∠ADC



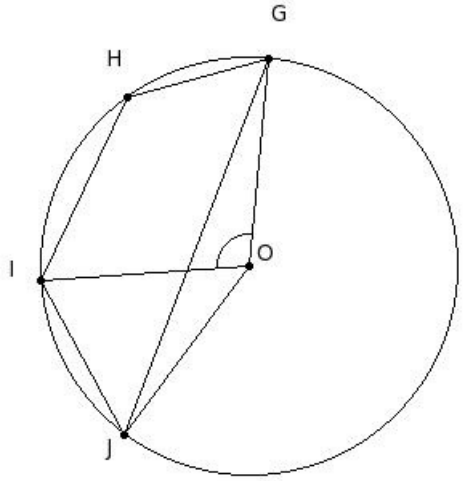
(i) 67.5° (ii) 47.5° (iii) 52.5° (iv) 37.5° (v) 42.5°

22. O is the centre of the circle. If Arc BD = 2 Arc DE and ∠BOD = 71°, find ∠EBD



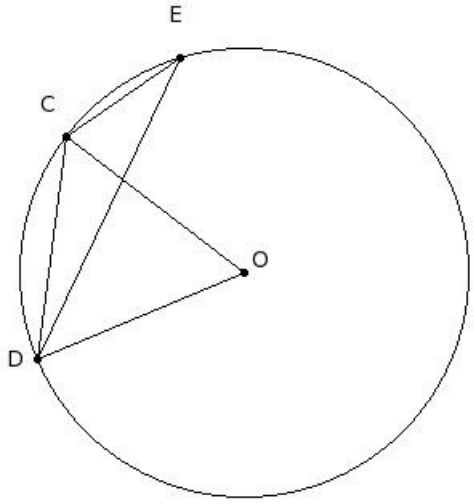
(i) 22.8° (ii) 27.8° (iii) 47.8° (iv) 17.8° (v) 32.8°

23. O is the centre of the circle. If Arc GI = 2 Arc IJ and ∠GOI = 99°, find ∠GHI



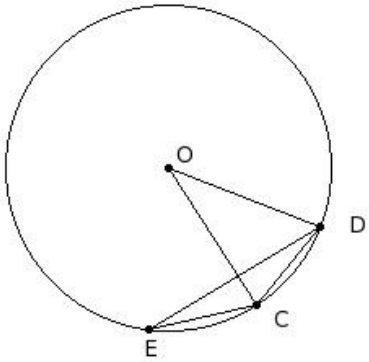
(i) 160.5° (ii) 140.5° (iii) 145.5° (iv) 130.5° (v) 135.5°

24. In the given figure, CD is a side of regular 10-sided polygon and CE is a side of regular 6-sided polygon inscribed in a circle with centre O. Find ∠COD



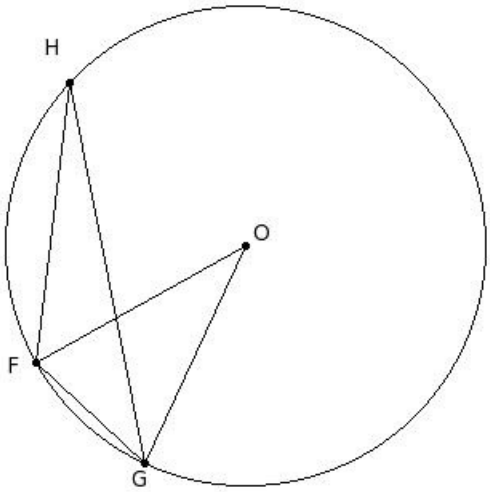
(i) 41° (ii) 46° (iii) 36° (iv) 51° (v) 66°

25. In the given figure, CD is a side of regular 9-sided polygon and CE is a side of regular 10-sided polygon inscribed in a circle with centre O. Find ∠CED



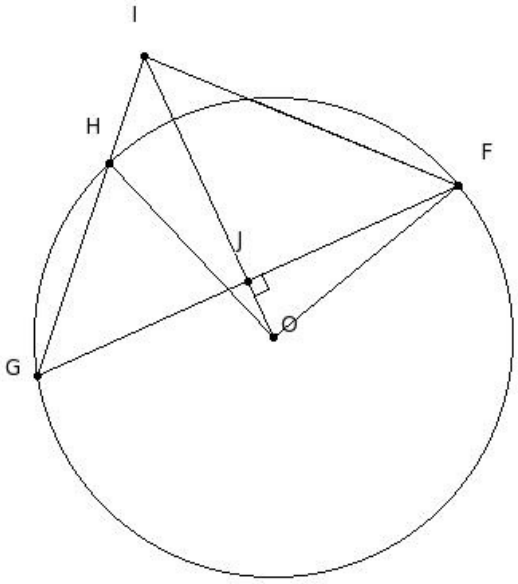
(i) 35° (ii) 25° (iii) 50° (iv) 30° (v) 20°

26. In the given figure, FG is a side of regular 5-sided polygon and FH is a side of regular 10-sided polygon inscribed in a circle with centre O. Find ∠FGH



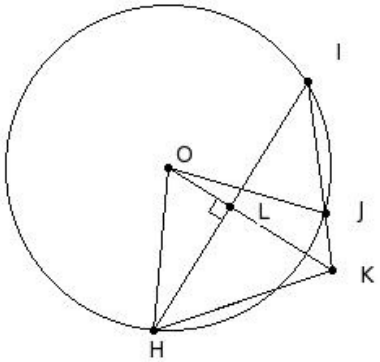
(i) 28° (ii) 23° (iii) 48° (iv) 33° (v) 18°

27. In the given figure, O is the centre of the circle, and OJ ⊥ FG. If ∠FGH = 47°, find ∠FOH



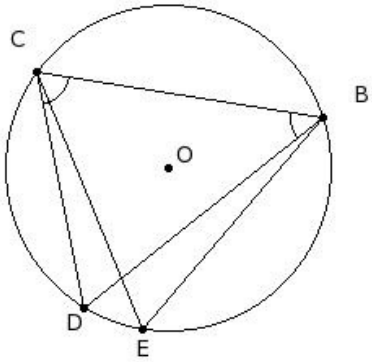
(i) 94° (ii) 109° (iii) 124° (iv) 104° (v) 99°

28. In the given figure, O is the centre of the circle, and OL ⊥ HI. If ∠HIJ = 39.5°, find ∠OKJ



(i) 65.5° (ii) 80.5° (iii) 50.5° (iv) 55.5° (v) 60.5°

29. In the given figure, O is the centre of the circle. If ∠DBC = 47.56° and ∠BCD = 69.65°, find the angle ∠BEC



(i) 62.79° (ii) 67.79° (iii) 77.79° (iv) 92.79° (v) 72.79°

30. Which of the following statements are true?

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

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

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

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

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

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

33. An arc subtends 131° in its alternate segment. The arc is

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

34. An arc subtends 48° in its alternate segment. The arc is

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

35. An arc subtends 68° in its alternate segment. Its corresponding major arc subtends what angle in its (major arc) alternate segment?

(i) 117° (ii) 142° (iii) 112° (iv) 127° (v) 122°

36. An arc subtends 44° in its alternate segment. The angle made by its corresponding major arc at the centre is

(i) 302° (ii) 277° (iii) 272° (iv) 287° (v) 282°

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

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

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

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

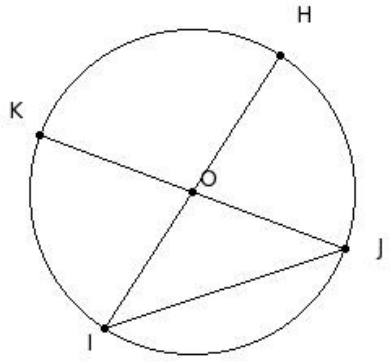
39. Angle subtended by the major arc at the centre is

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

40. Angle subtended in the major segment is

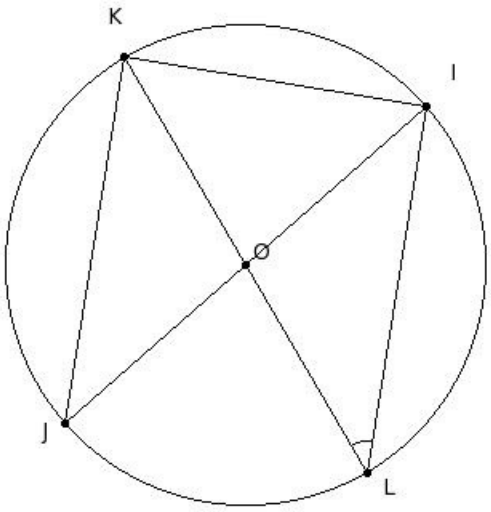
(i) obtuse angle (ii) acute angle (iii) zero angle (iv) right angle (v) straight angle

41. In the given figure, HI & JK are diameters of the circle. If ∠HIJ = 39° find, ∠IOJ



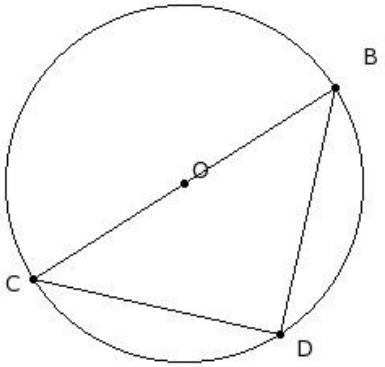
(i) 117° (ii) 107° (iii) 132° (iv) 102° (v) 112°

42. In the given figure, IJ & KL are diameters of the circle. If ∠ILK = 39°, find ∠OKJ



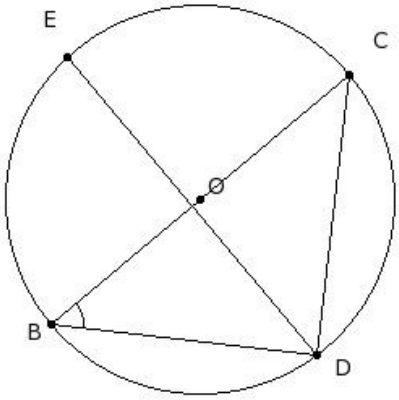
(i) 54° (ii) 39° (iii) 49° (iv) 69° (v) 44°

43. In the given figure BD & CD are equal length chords of the circle. Find ∠DBC



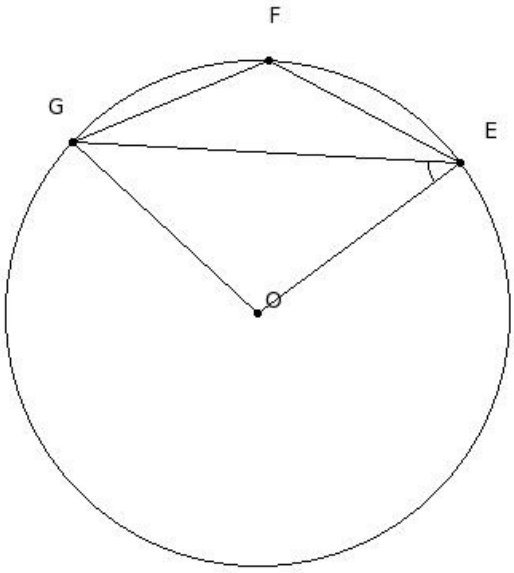
(i) 45° (ii) 55° (iii) 50° (iv) 75° (v) 60°

44. In the given figure, BC is a diameter of the circle with centre O. If ∠CBD = 46.54° and CD = CE, find ∠EDB



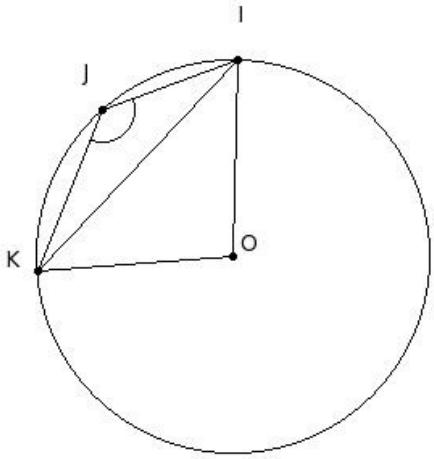
(i) 48.46° (ii) 43.46° (iii) 53.46° (iv) 58.46° (v) 73.46°

45. In the given figure, O is the centre of the circle. If ∠OEG = 39.5°, find ∠F



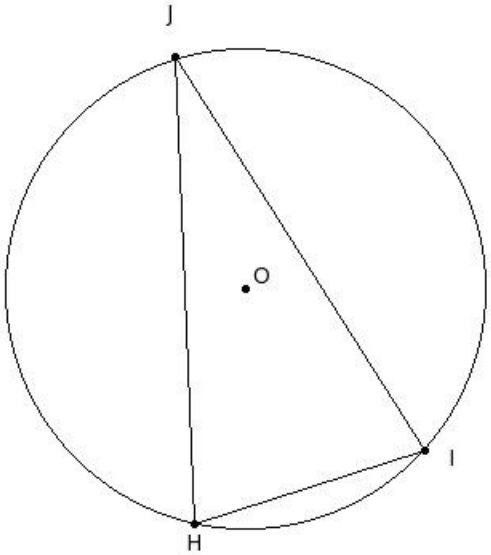
(i) 144.5° (ii) 139.5° (iii) 134.5° (iv) 159.5° (v) 129.5°

46. In the given figure, O is the centre of the circle. If ∠IJK = 132°, find ∠OIK



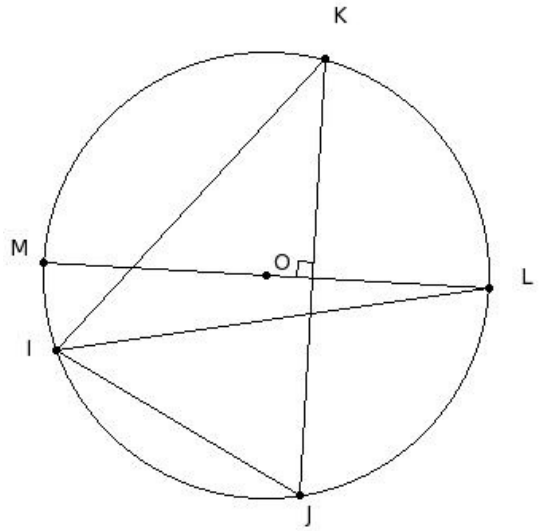
(i) 57° (ii) 52° (iii) 72° (iv) 42° (v) 47°

47. O is the centre of the circle. If ∠IJH = 30°, find the angle ∠OIH



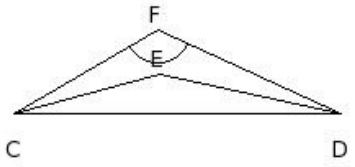
(i) 70° (ii) 60° (iii) 75° (iv) 65° (v) 90°

48. LM is the perpendicular bisector of side JK of △IJK. Given ∠IJK = 63° and ∠LIK = 39° , find ∠IKJ



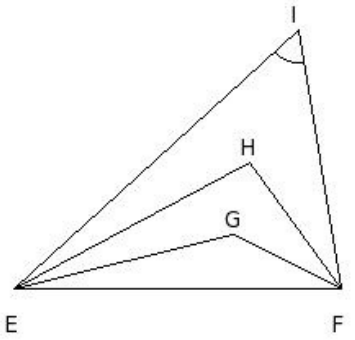
(i) 44° (ii) 54° (iii) 69° (iv) 39° (v) 49°

49. In the given figure, △FCD is a scalene triangle. EC bisects ∠FCD. Similarly DE bisects ∠CDF. Given ∠DFC = 126°, find ∠DEC



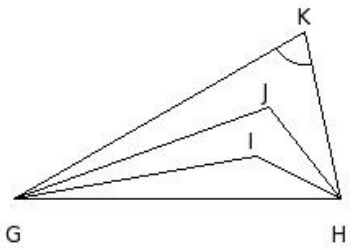
(i) 153° (ii) 158° (iii) 168° (iv) 163° (v) 183°

50. In the given figure, △IEF is a scalene triangle. GE & HE trisect ∠IEF. Similarly FG & FH trisect ∠EFI. Given ∠FIE = 57°, find ∠FGE



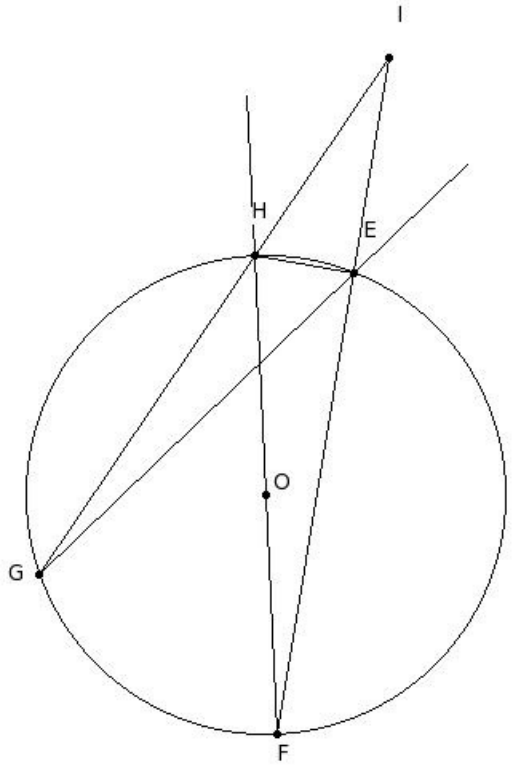
(i) 149° (ii) 144° (iii) 154° (iv) 169° (v) 139°

51. In the given figure, △KGH is a scalene triangle. IG & JG trisect ∠KGH. Similarly HI & HJ trisect ∠GHK. Given ∠HKG = 72°, find ∠HJG



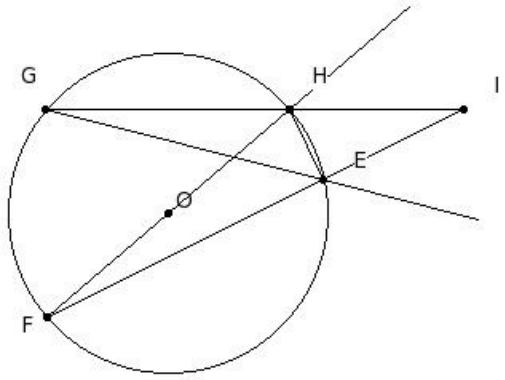
(i) 108° (ii) 138° (iii) 113° (iv) 123° (v) 118°

52. In the given figure, ∠EGH = 12° and ∠EIH = 25°, find ∠GEH



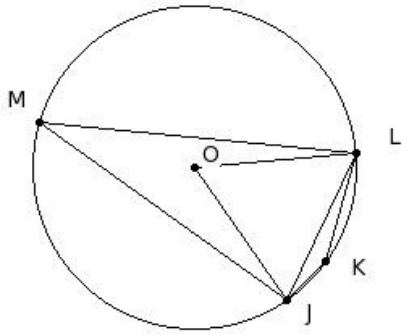
(i) 83° (ii) 68° (iii) 53° (iv) 63° (v) 58°

53. In the given figure, ∠EGH = 14° and ∠EIH = 26°, find ∠FHE



(i) 106° (ii) 91° (iii) 86° (iv) 76° (v) 81°

54. In the given figure, JL is a chord which is equal to the radius of the circle. Find ∠M and ∠K



(i) 30° & 150° (ii) 45° & 135° (iii) 60° & 120° (iv) 50° & 130° (v) 40° & 140°

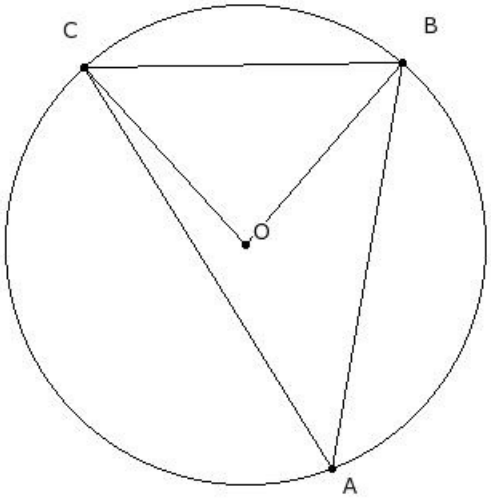
55. Which of the following statements are true?

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

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

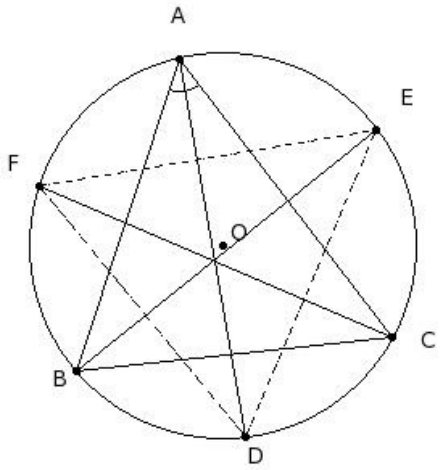
56. In the given figure, which of the following are true?

a) $\angle A + \angle OCB = 90°$
b) $\angle A + \angle OBC = 120°$
c) $\angle A + \angle OBC + \angle OCB = 2\angle A$
d) $\angle A + \angle OBC = 90°$
e) $\angle A + \angle BOC = 180°$



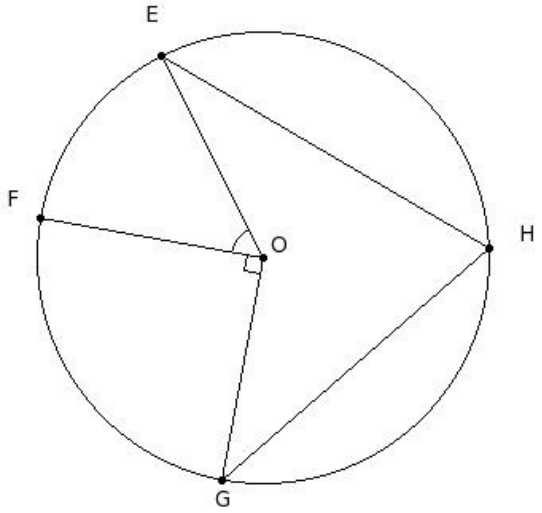
(i) {b,a} (ii) {a,d} (iii) {c,d} (iv) {c,d,a} (v) {e,b,a}

57. In the given figure, the bisectors of $\angle A$, $\angle B$ & $\angle C$ of $\triangle ABC$ meet the circumcircle at D , E & F. If $\angle A = 56°$, find $\angle D$



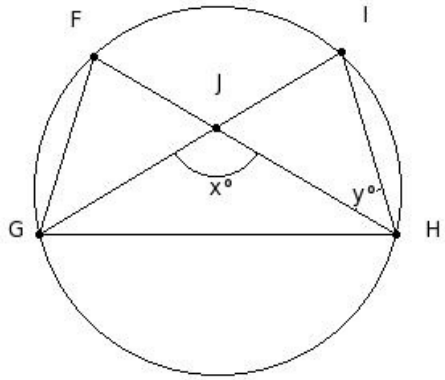
(i) 62° (ii) 92° (iii) 72° (iv) 67° (v) 77°

58. In the given figure, O is the centre of the circle. Given ∠FOG = 90° & ∠EOF = 53°, find ∠EHG



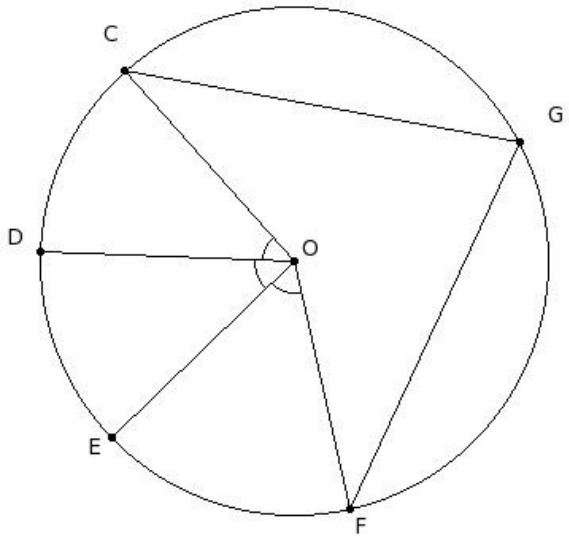
(i) 101.5° (ii) 71.5° (iii) 86.5° (iv) 81.5° (v) 76.5°

59. In the given figure, chords FH & GI meet at J. Given x = 118° and y = 42°, find ∠GFH



(i) 76° (ii) 106° (iii) 81° (iv) 91° (v) 86°

60. In the given figure, O is the centre of the circle. Given ∠DOE = 46°, ∠CGF = 75.5° and ∠COD = 46°, find ∠EOF



(i) 69° (ii) 64° (iii) 59° (iv) 74° (v) 89°

Assignment Key

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