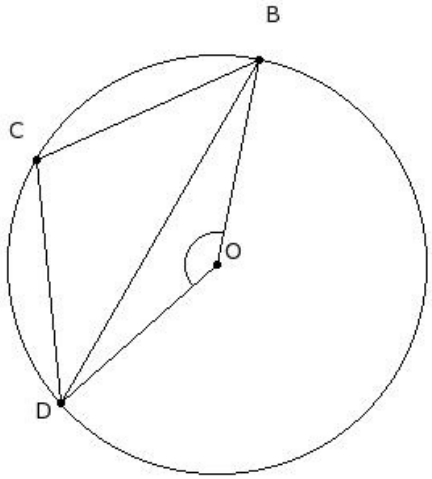
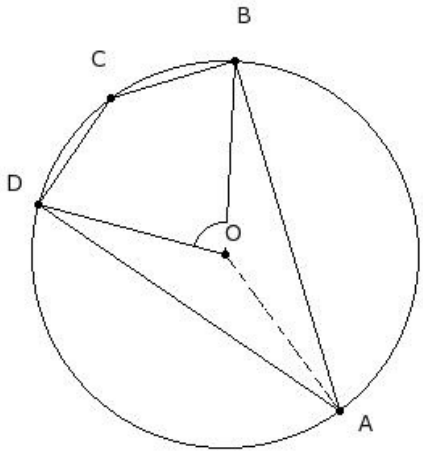
1. O is the centre of the circle. If $\angle O = 143°$, find $\angle C$



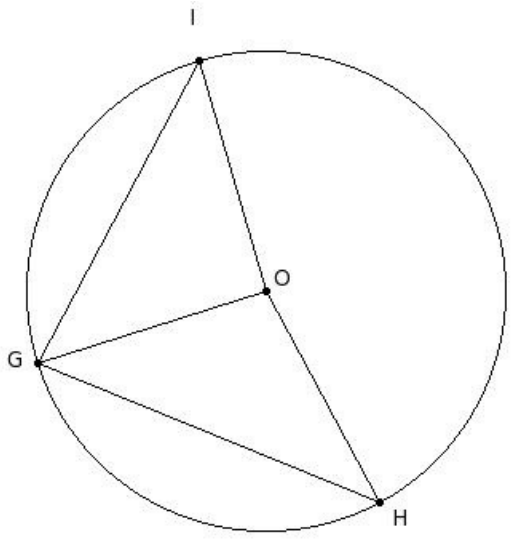
(i) 138.5° (ii) 123.5° (iii) 113.5° (iv) 118.5° (v) 108.5°

2. O is the centre of the circle. If $\angle BOD = 78°$, find $\angle A$



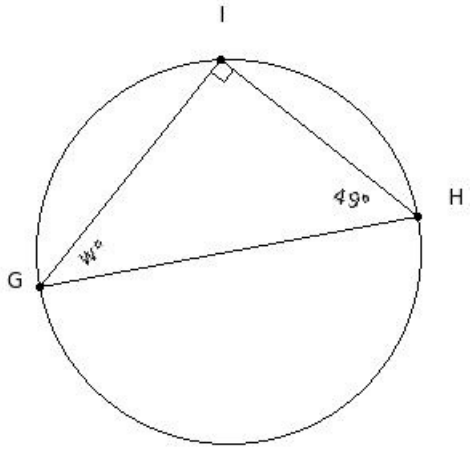
(i) 39° (ii) 44° (iii) 69° (iv) 54° (v) 49°

3. O is the centre of the circle. If $\angle HOG = 101°$ and $\angle IOG = 91°$, find $\angle HGI$



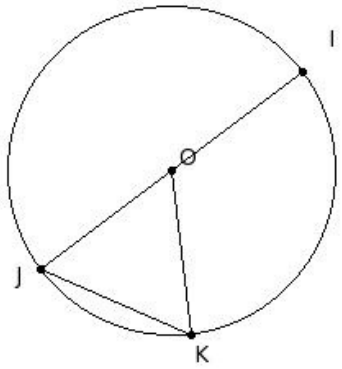
(i) 114° (ii) 99° (iii) 84° (iv) 94° (v) 89°

4. Find the missing angle in the following figure?



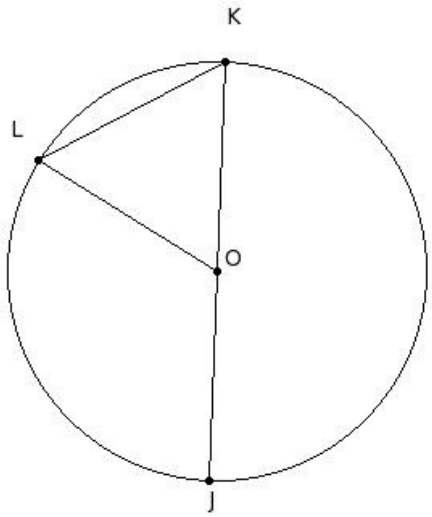
(i) 46° (ii) 41° (iii) 56° (iv) 51° (v) 71°

5. O is the centre of the circle and OK = JK. Find ∠JOK



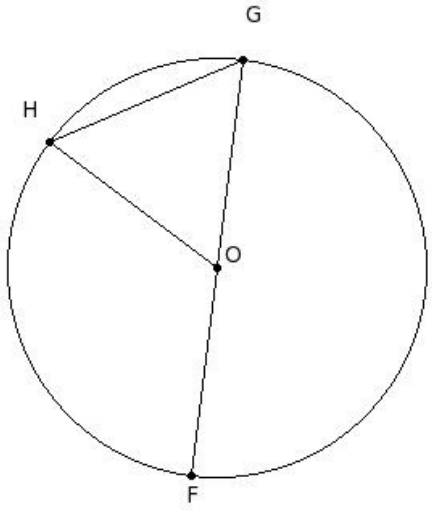
(i) 60° (ii) 65° (iii) 90° (iv) 70° (v) 75°

6. O is the centre of the circle and OL = KL. Find ∠LOJ



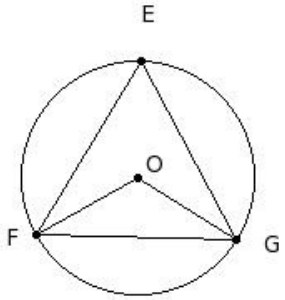
(i) 125° (ii) 130° (iii) 150° (iv) 135° (v) 120°

7. O is the centre of the circle and OH = GH. Find reflex ∠HOF



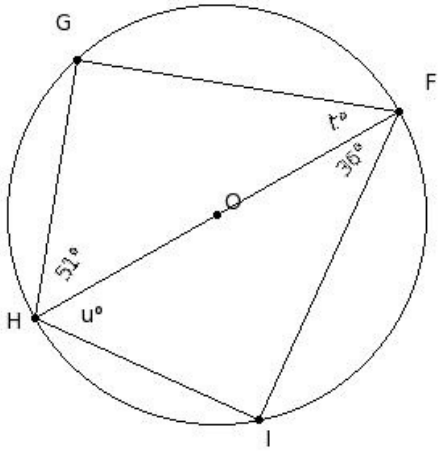
(i) 270° (ii) 255° (iii) 245° (iv) 240° (v) 250°

8. O is the centre of the circle. If $\angle E + \angle FOG = 178.5°$, find ∠FOG



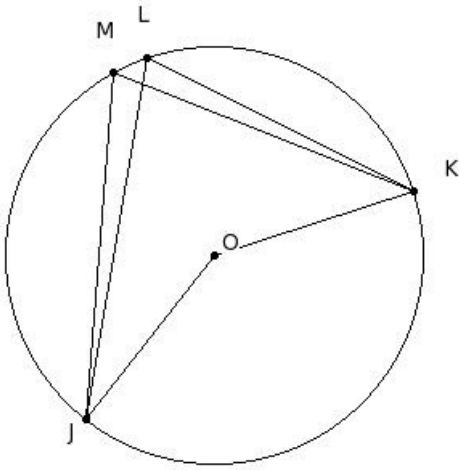
(i) 149° (ii) 129° (iii) 124° (iv) 134° (v) 119°

9. O is the centre of the circle. If ∠FHG = 51° and ∠HFI = 36°, find t°, u°



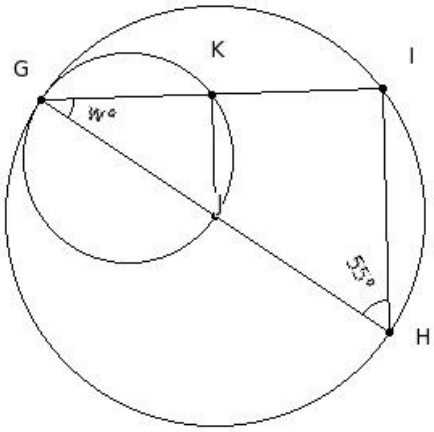
(i) 44°, 39° (ii) 84°, 59° (iii) 64°, 49° (iv) 39°, 54° (v) 54°, 39°

10. O is the centre of the circle. If ∠JOK = 146°, find the angle ∠M



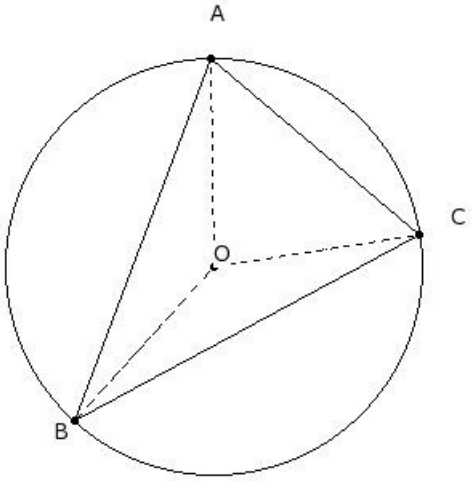
(i) 73° (ii) 88° (iii) 83° (iv) 78° (v) 103°

11. Two circles touch internally. J is the centre of the bigger circle and lies on the smaller circle. If ∠GHI = 55°, find ∠G



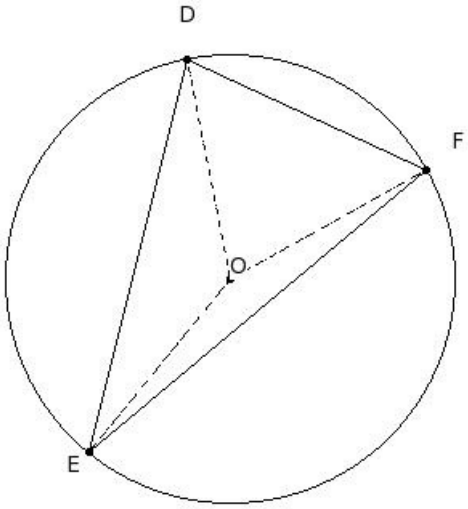
(i) 50° (ii) 45° (iii) 35° (iv) 65° (v) 40°

12. △ABC is inscribed in a circle with centre O. If ∠AOB = 137° and ∠BOC = 141°, find ∠CAB



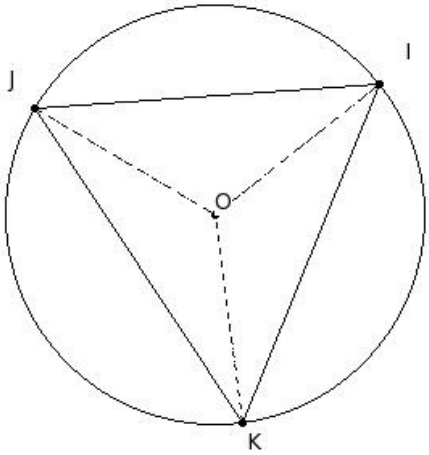
(i) 80.5° (ii) 75.5° (iii) 85.5° (iv) 70.5° (v) 100.5°

13. △DEF is inscribed in a circle with centre O. If ∠DOE = 130° and ∠EOF = 158°, find ∠DEF



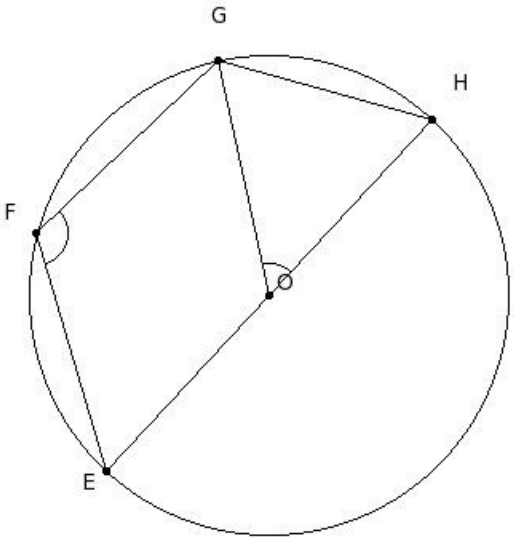
(i) 66° (ii) 41° (iii) 36° (iv) 51° (v) 46°

14. △IJK is inscribed in a circle with centre O. If ∠IOJ = 111° and ∠JOK = 128°, find ∠JKI



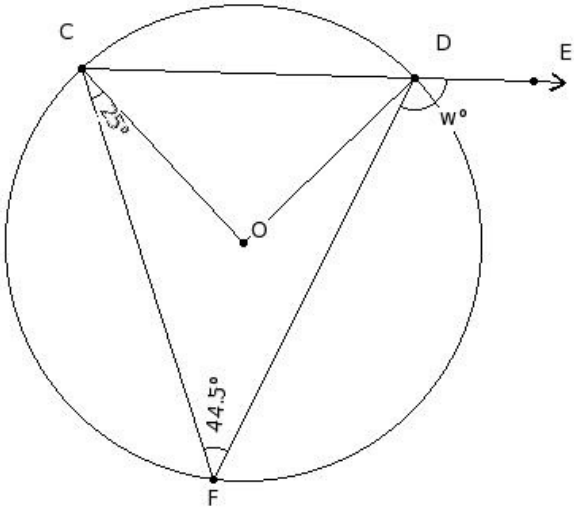
(i) 70.5° (ii) 85.5° (iii) 60.5° (iv) 55.5° (v) 65.5°

15. O is the centre of the circle. If ∠EFG = 117.5°, find ∠GOH



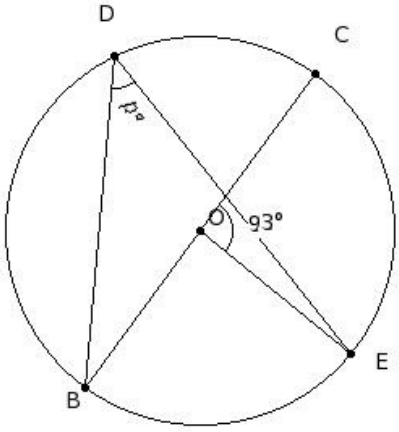
(i) 60° (ii) 65° (iii) 55° (iv) 85° (v) 70°

16. In the given figure, O is the centre of the circle. If ∠CFD = 44.5° and ∠OCF = 25°, find ∠EDF



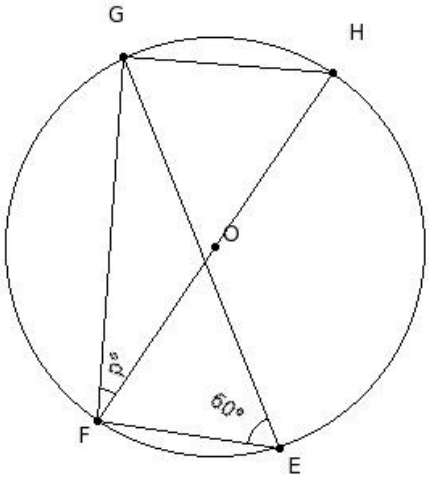
(i) 125° (ii) 130° (iii) 120° (iv) 145° (v) 115°

17. In the given figure, O is the centre of the circle and BC is a diameter. If ∠COE = 93°, find ∠BDE



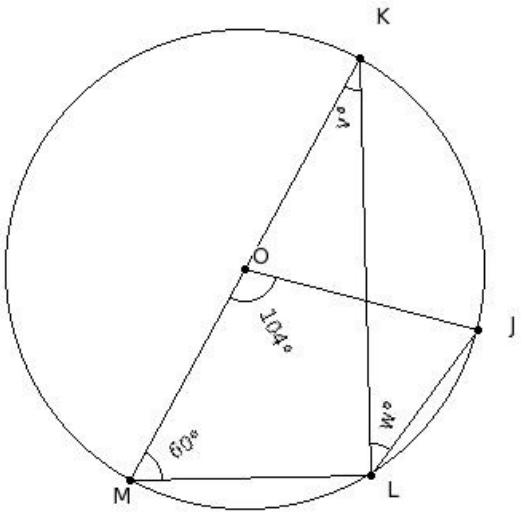
(i) 58.5° (ii) 53.5° (iii) 73.5° (iv) 48.5° (v) 43.5°

18. In the given figure, O is the centre of the circle and FH is a diameter. If ∠GEF = 60°, find ∠GFH



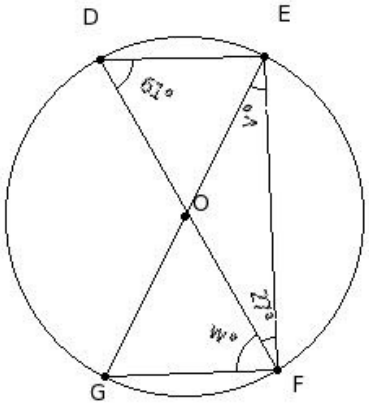
(i) 45° (ii) 40° (iii) 35° (iv) 60° (v) 30°

19. In the given figure, O is the centre of the circle and KM is a diameter. If ∠JOM = 104° and ∠OML = 60°, find ∠KLJ + ∠LKM



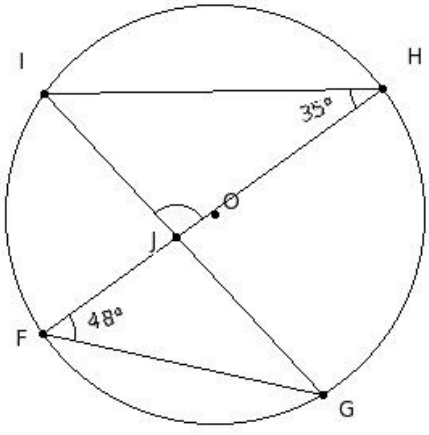
(i) 73° (ii) 83° (iii) 68° (iv) 78° (v) 98°

20. In the given figure, O is the centre of the circle and EG is a diameter. If ∠DFE = 27° and ∠EDF = 61°, find ∠GEF + ∠DFG



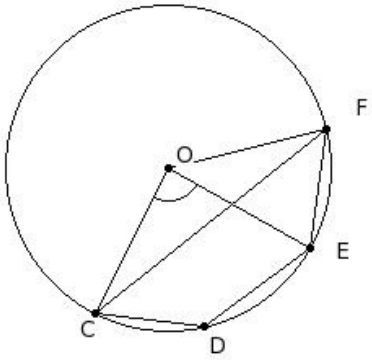
(i) 107° (ii) 92° (iii) 97° (iv) 102° (v) 122°

21. In the given figure, O is the centre of the circle. If ∠GFH = 48° and ∠FHI = 35°, find ∠HJI



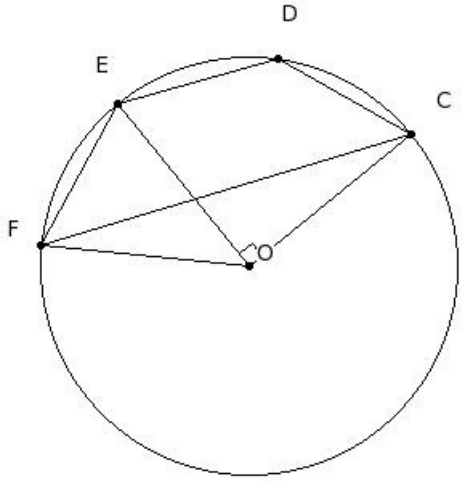
(i) 102° (ii) 107° (iii) 112° (iv) 97° (v) 127°

22. O is the centre of the circle. If Arc CE = 2 Arc EF and ∠COE = 87°, find ∠CFE



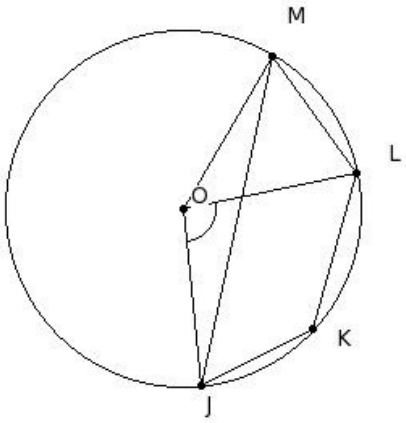
(i) 58.5° (ii) 48.5° (iii) 73.5° (iv) 53.5° (v) 43.5°

23. O is the centre of the circle. If Arc CE = 2 Arc EF and ∠COE = 90°, find ∠FCE



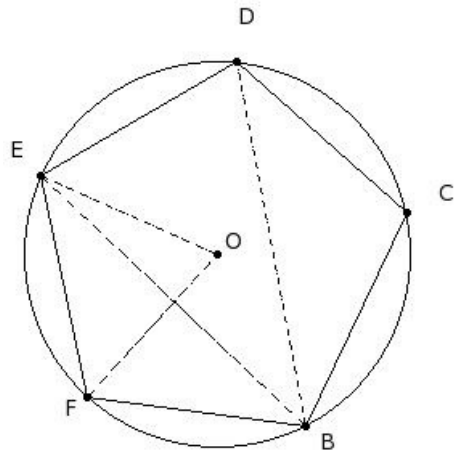
(i) 32.5° (ii) 52.5° (iii) 22.5° (iv) 37.5° (v) 27.5°

24. O is the centre of the circle. If Arc JL = 2 Arc LM and ∠JOL = 96°, find ∠JKL



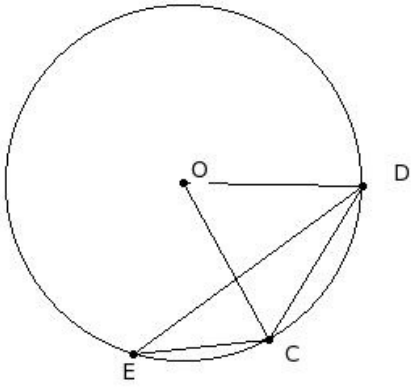
(i) 162° (ii) 142° (iii) 147° (iv) 137° (v) 132°

25. In the given figure, a pentagon is inscribed in a circle with centre O. Given CD = DE = EF and ∠CDE = 108°. Find ∠EOF



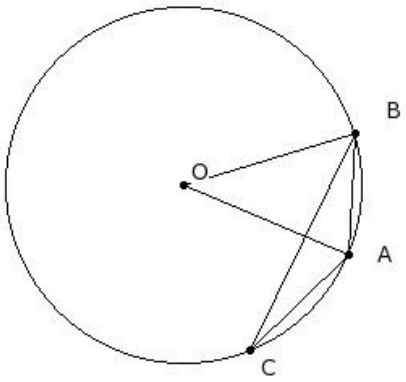
(i) 72° (ii) 102° (iii) 82° (iv) 77° (v) 87°

26. In the given figure, CD is a side of regular 8-sided polygon and CE is a side of regular 6-sided polygon inscribed in a circle with centre O. Find ∠COD



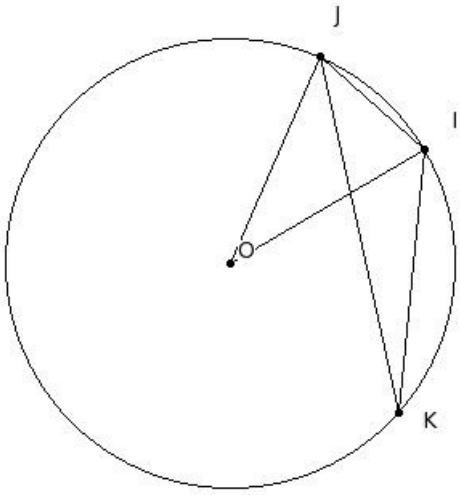
(i) 45° (ii) 60° (iii) 55° (iv) 50° (v) 75°

27. In the given figure, AB is a side of regular 8-sided polygon and AC is a side of regular 9-sided polygon inscribed in a circle with centre O. Find ∠ACB



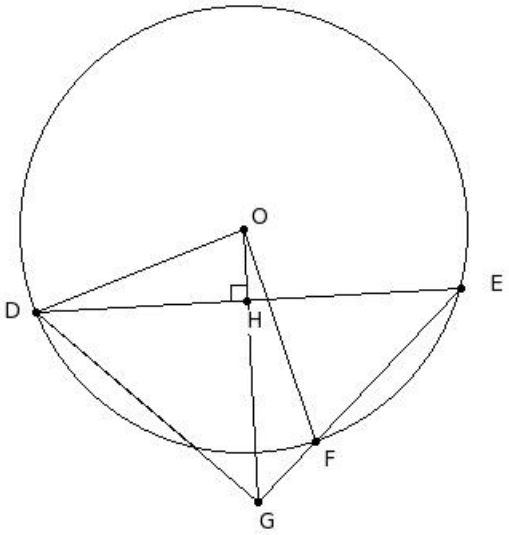
(i) 52.5° (ii) 22.5° (iii) 27.5° (iv) 32.5° (v) 37.5°

28. In the given figure, IJ is a side of regular 5-sided polygon and IK is a side of regular 10-sided polygon inscribed in a circle with centre O. Find ∠IJK



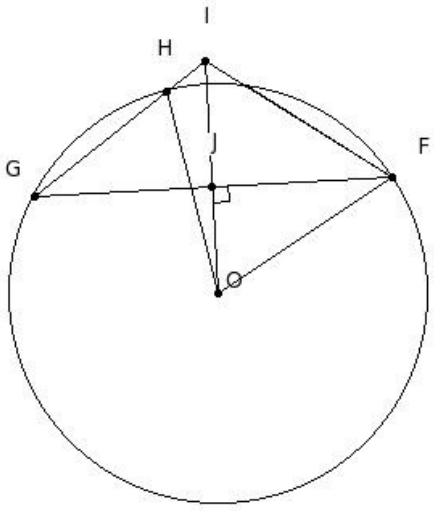
(i) 33° (ii) 23° (iii) 28° (iv) 18° (v) 48°

29. In the given figure, O is the centre of the circle, and OH ⊥ DE. If ∠DEF = 43.5°, find ∠DOF



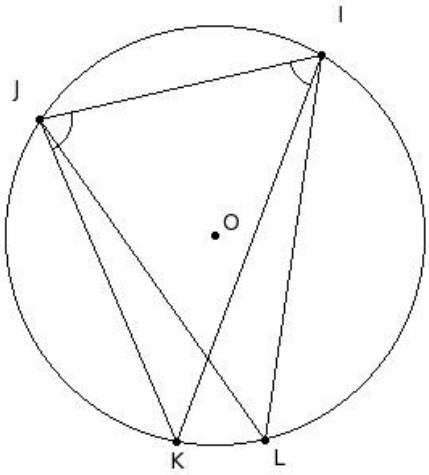
(i) 97° (ii) 92° (iii) 117° (iv) 102° (v) 87°

30. In the given figure, O is the centre of the circle, and OJ ⊥ FG. If ∠FGH = 35.5°, find ∠OIH



(i) 59.5° (ii) 69.5° (iii) 54.5° (iv) 64.5° (v) 84.5°

31. In the given figure, O is the centre of the circle. If ∠KIJ = 56.57° and ∠IJK = 79.85°, find the angle ∠ILJ



(i) 48.58° (ii) 73.58° (iii) 53.58° (iv) 58.58° (v) 43.58°

32. Which of the following statements are true?

a) The farther the chord is from the centre, the larger the angle it subtends at the centre.
b) No two chords bisects each other.
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) Equal length chords subtend equal angles at the centre of the circle.

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

33. Which of the following statements are true?

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

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

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

(i) excentre (ii) orthocentre (iii) centroid (iv) incentre (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) $\frac{x°}{2}$ (ii) 2x° (iii) x° (iv) 4x°

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

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

37. An arc subtends 117° in its alternate segment. The arc is

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

38. An arc subtends 65° in its alternate segment. The arc is

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

39. An arc subtends 79° in its alternate segment. Its corresponding major arc subtends what angle in its (major arc) alternate segment?

(i) 101° (ii) 131° (iii) 106° (iv) 111° (v) 116°

40. An arc subtends 39° in its alternate segment. The angle made by its corresponding major arc at the centre is

(i) 292° (ii) 282° (iii) 297° (iv) 287° (v) 312°

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

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

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

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

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

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

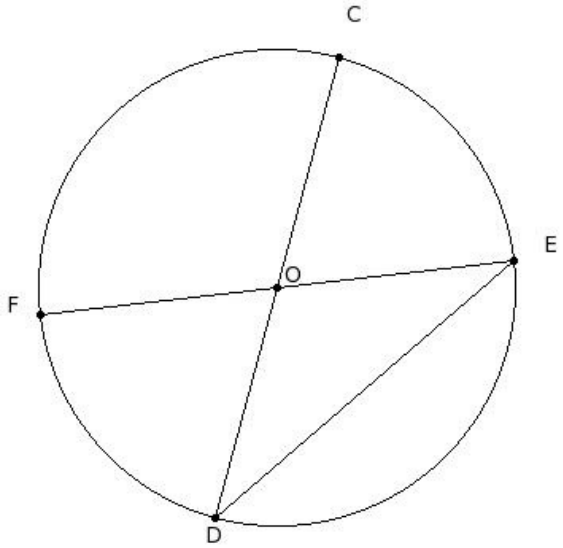
44. Angle subtended in the major segment is

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

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

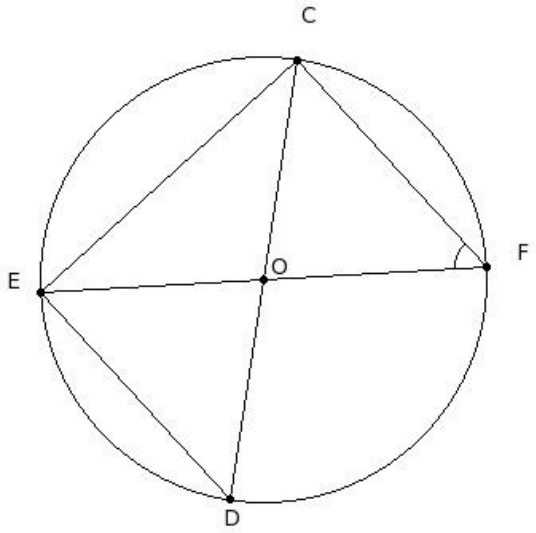
(i) acute angled triangle (ii) equilateral triangle (iii) right angle triangle (iv) obtuse angled triangle

46. In the given figure, CD & EF are diameters of the circle. If ∠CDE = 34° find, ∠DOE



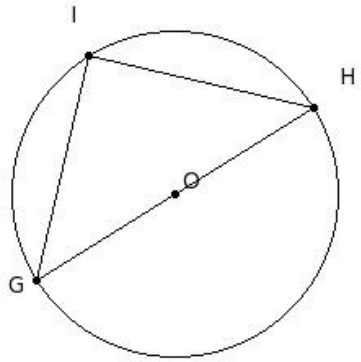
(i) 127° (ii) 142° (iii) 112° (iv) 117° (v) 122°

47. In the given figure, CD & EF are diameters of the circle. If ∠CFE = 51°, find ∠OED



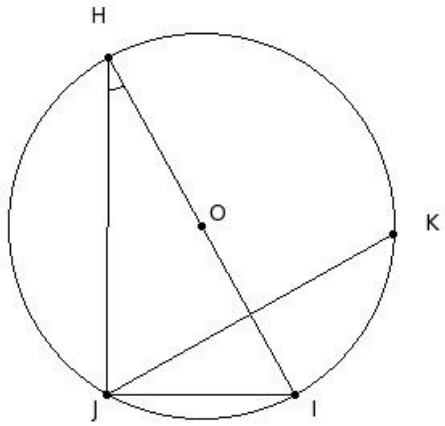
(i) 51° (ii) 81° (iii) 56° (iv) 66° (v) 61°

48. In the given figure GI & HI are equal length chords of the circle. Find ∠IGH



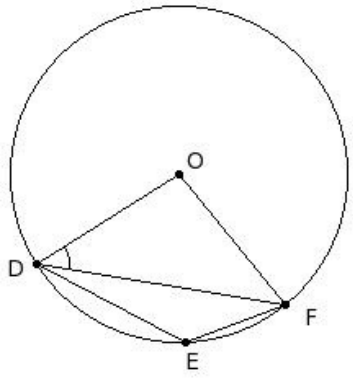
(i) 50° (ii) 55° (iii) 45° (iv) 60° (v) 75°

49. In the given figure, HI is a diameter of the circle with centre O. If ∠IHJ = 29.19° and IJ = IK, find ∠KJH



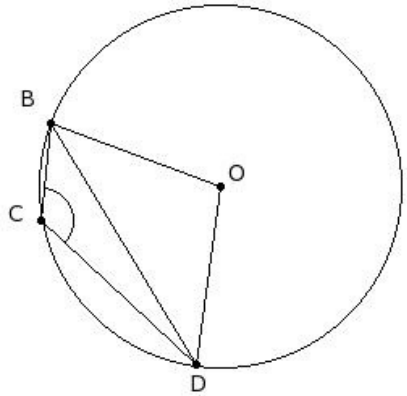
(i) 70.81° (ii) 75.81° (iii) 65.81° (iv) 60.81° (v) 90.81°

50. In the given figure, O is the centre of the circle. If ∠ODF = 41.5°, find ∠E



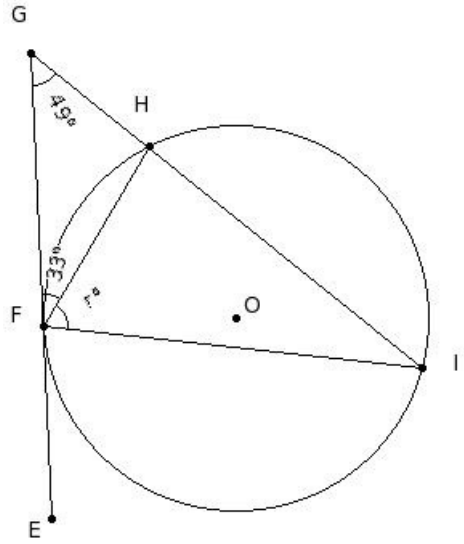
(i) 131.5° (ii) 161.5° (iii) 136.5° (iv) 141.5° (v) 146.5°

51. In the given figure, O is the centre of the circle. If ∠BCD = 127°, find ∠OBD



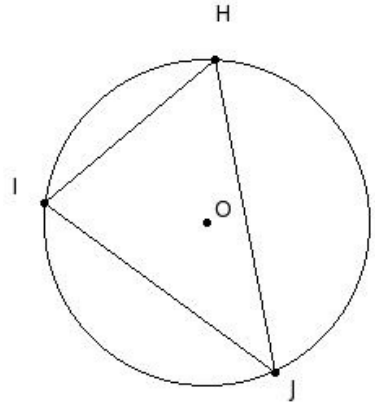
(i) 47° (ii) 37° (iii) 67° (iv) 52° (v) 42°

52. In the given figure, O is the centre of the circle and EG is the tangent at F. If ∠FGH = 49°,∠GFH = 33°, find ∠IFH



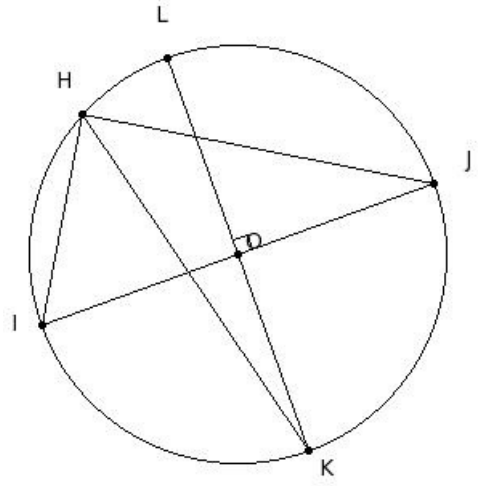
(i) 80° (ii) 95° (iii) 75° (iv) 65° (v) 70°

53. O is the centre of the circle. If ∠IJH = 43°, find the angle ∠OIH



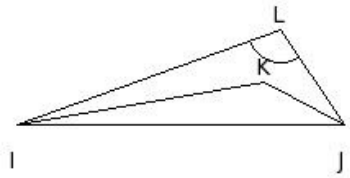
(i) 62° (ii) 47° (iii) 57° (iv) 52° (v) 77°

54. KL is the perpendicular bisector of side IJ of △HIJ. Given ∠HIJ = 59° and ∠KHJ = 45° , find ∠HJI



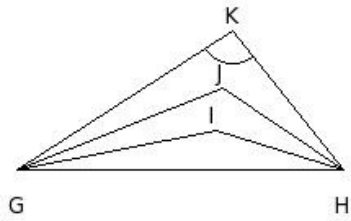
(i) 36° (ii) 41° (iii) 31° (iv) 61° (v) 46°

55. In the given figure, △LIJ is a scalene triangle. KI bisects ∠LIJ. Similarly JK bisects ∠IJL. Given ∠JLI = 104°, find ∠JKI



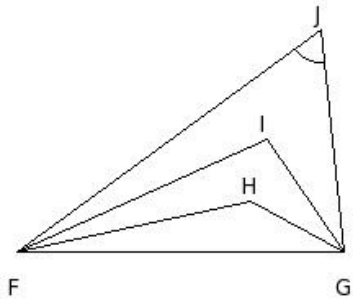
(i) 157° (ii) 142° (iii) 152° (iv) 172° (v) 147°

56. In the given figure, △KGH is a scalene triangle. IG & JG trisect ∠KGH. Similarly HI & HJ trisect ∠GHK. Given ∠HKG = 96°, find ∠HIG



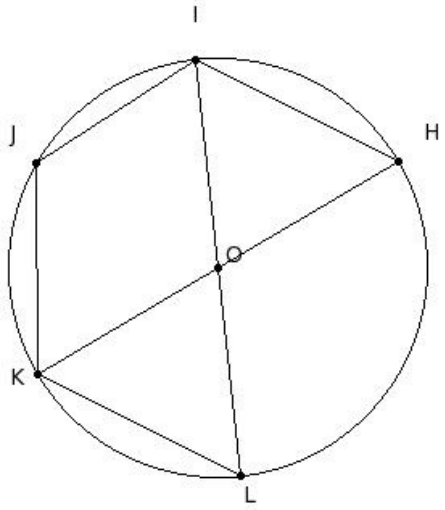
(i) 152° (ii) 182° (iii) 162° (iv) 167° (v) 157°

57. In the given figure, △JFG is a scalene triangle. HF & IF trisect ∠JFG. Similarly GH & GI trisect ∠FGJ. Given ∠GJF = 60°, find ∠GIF



(i) 130° (ii) 115° (iii) 105° (iv) 100° (v) 110°

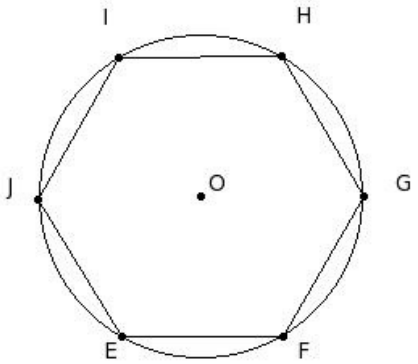
58. In the given figure, HI , IJ , JK and KL are chords and HK , IL are diameters passing through the centre O. If ∠HOI = 66°. Find ∠IJK



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

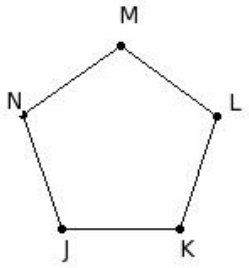
59. In the given figure, EFGHIJ is a regular hexagon inscribed in a circle with centre O. Which of the following are true?

a) ∠EOJ = 60°
b) ∠JHG = 90°
c) ∠FIG = 30°
d) ∠FOH = 120°
e) ∠EGF = 60°



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

60. In the given figure, JKLMN is a regular pentagon . Find ∠JNL



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

61. Which of the following statements are true?

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

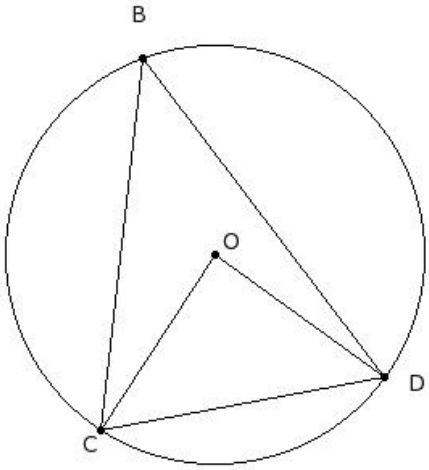
(i) {b,d,e} (ii) {b,a,c} (iii) {b,a} (iv) {d,c} (v) {a,c,e}

62. In triangle EFG, if a circle is drawn with FG as diameter and if it passes through E it is a

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

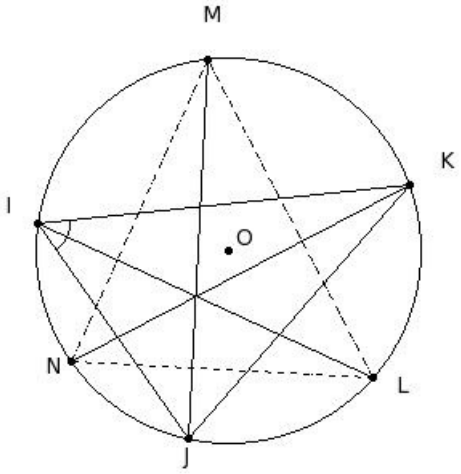
63. In the given figure, which of the following are true?

a) $\angle B + \angle OCD = 90°$
b) $\angle B + \angle COD = 180°$
c) $\angle B + \angle OCD = 120°$
d) $\angle B + \angle OCD + \angle ODC = 2\angle B$
e) $\angle B + \angle ODC = 90°$



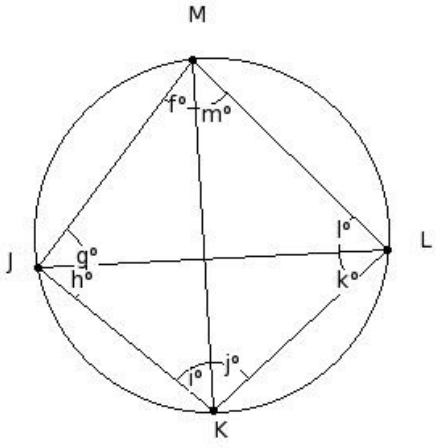
(i) {d,b,a} (ii) {b,a} (iii) {c,e} (iv) {c,e,a} (v) {a,e}

64. In the given figure, the bisectors of $\angle I$, $\angle J$ & $\angle K$ of $\triangle IJK$ meet the circumcircle at L , M & N. If $\angle I = 61°$, find $\angle L$



(i) 59.5° (ii) 89.5° (iii) 74.5° (iv) 69.5° (v) 64.5°

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



(i) {(m,l),(i,j),(k,g),(f,h)} (ii) {(j,l),(m,g),(h,k),(f,i)} (iii) {(k,j),(h,f),(i,l),(g,m)} (iv) {(f,j),(g,i),(h,m),(k,l)}

(v) {(f,k),(g,j),(h,m),(i,l)}

Assignment Key

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