EduSahara™ Assignment

Name : Cyclic Quadrilateral

Chapter : Circles

Grade : SSC Grade IX

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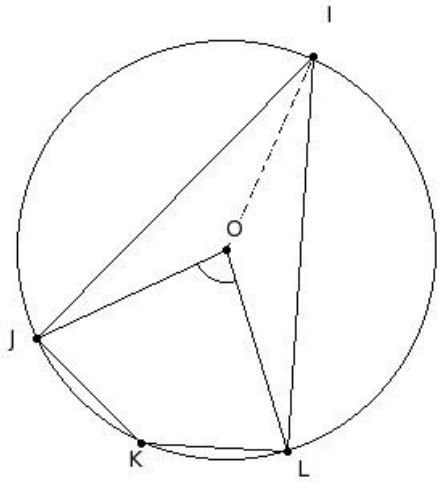
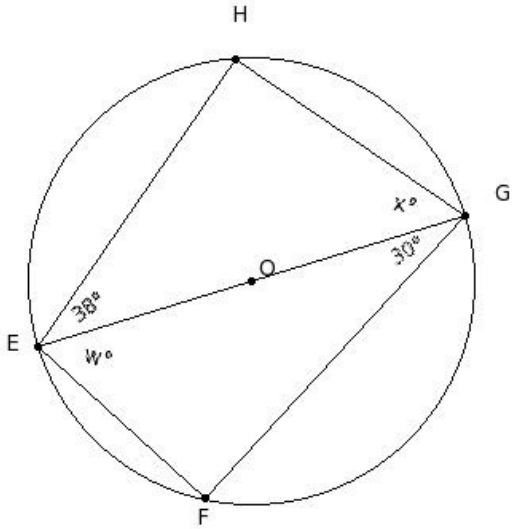
1. O is the centre of the circle. If ∠JOL = 82°, find ∠I



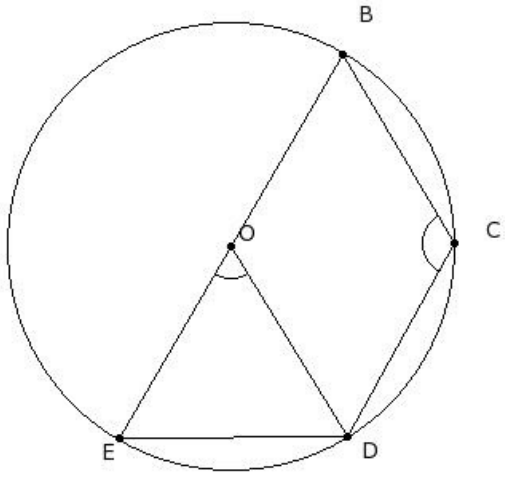
(i) 51° (ii) 71° (iii) 41° (iv) 56° (v) 46°

2. O is the centre of the circle. If ∠EGF = 30° and ∠GEH = 38°, find w°, x°



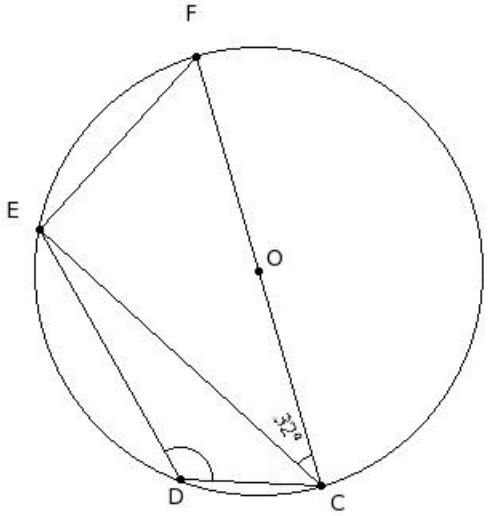
(i) 52°, 61° (ii) 42°, 61° (iii) 82°, 81° (iv) 61°, 52° (v) 62°, 71°

3. O is the centre of the circle. If ∠BCD = 121°, find ∠DOE



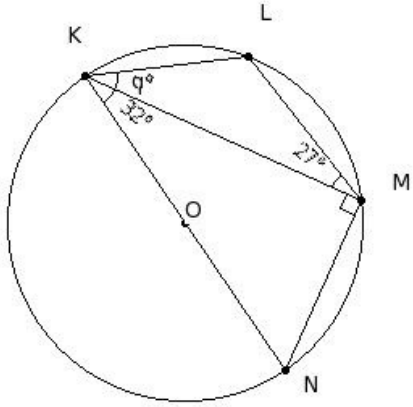
(i) 62° (ii) 77° (iii) 72° (iv) 92° (v) 67°

4. O is the centre of the circle and ∠FCE = 32°, find ∠CDE



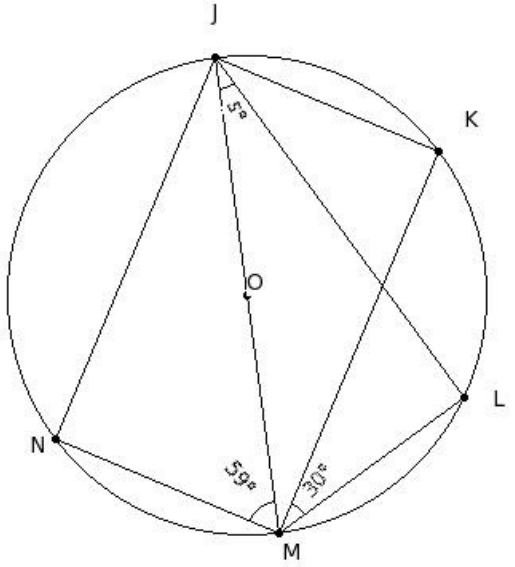
(i) 122° (ii) 152° (iii) 137° (iv) 132° (v) 127°

5. O is the centre of the circle. If ∠MKN = 32° and ∠KML = 27°, find ∠LKM



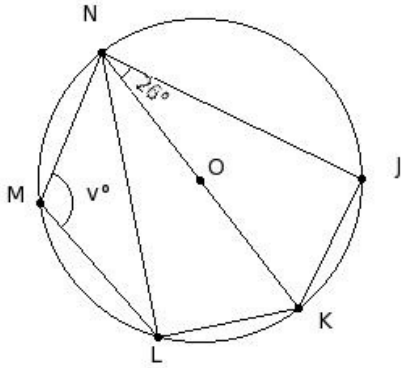
(i) 36° (ii) 41° (iii) 46° (iv) 61° (v) 31°

6. In the given figure, O is the centre of the circle and JM is a diameter. If ∠JMN = 59° and ∠KML = 30°, find ∠MJL



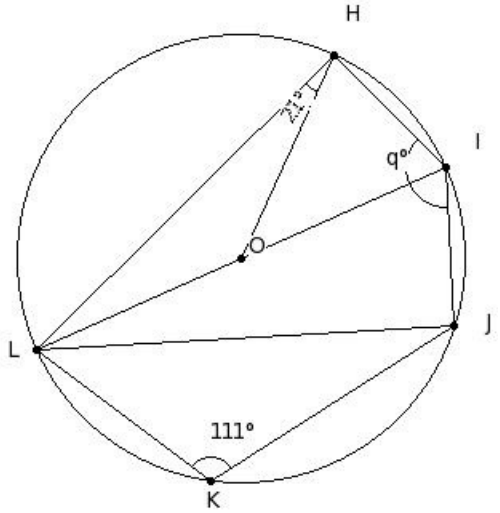
(i) 34° (ii) 59° (iii) 44° (iv) 29° (v) 39°

7. In the given figure, O is the centre of the circle and chord JK is equal to chord KL and KN is a diameter. If ∠JNK = 26°, find ∠NML



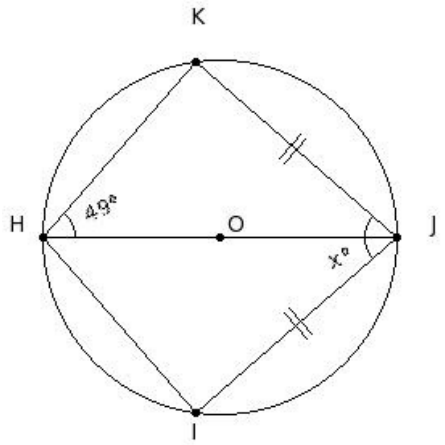
(i) 131° (ii) 126° (iii) 146° (iv) 116° (v) 121°

8. In the given figure, O is the centre of the circle and chord HI is equal to chord IJ and IL is a diameter. If ∠LHO = 21° and ∠JKL = 111°, find ∠HIJ



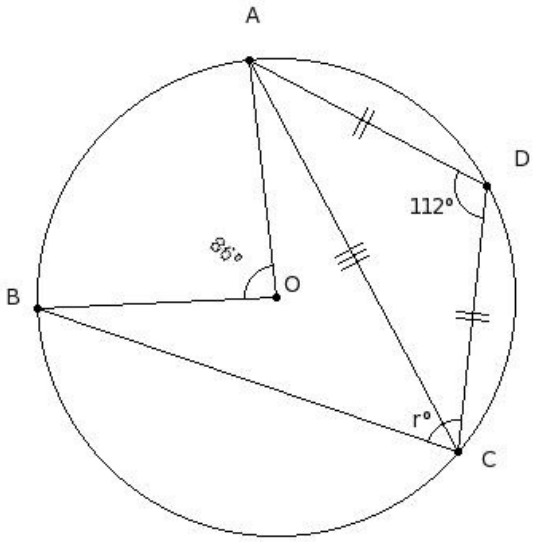
(i) 148° (ii) 153° (iii) 168° (iv) 138° (v) 143°

9. In the given figure, O is the centre of the circle , chord IJ is equal to chord JK and HJ is a diameter. If ∠KHJ = 49° find ∠IJK



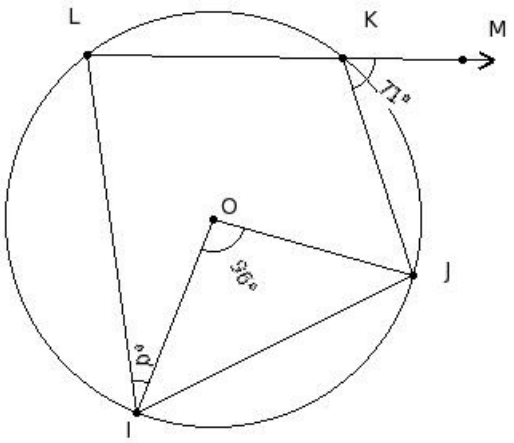
(i) 92° (ii) 97° (iii) 82° (iv) 112° (v) 87°

10. In the given figure, O is the centre of the circle , chord AD is equal to chord DC. If ∠AOB = 86° and ∠ADC = 112°, find ∠BCD



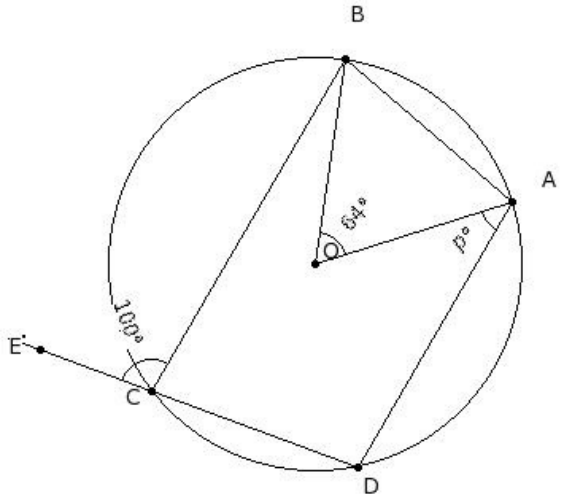
(i) 87° (ii) 107° (iii) 77° (iv) 92° (v) 82°

11. In the given figure, O is the centre of the circle. If ∠IOJ = 96° and ∠JKM = 71°, find ∠LIO



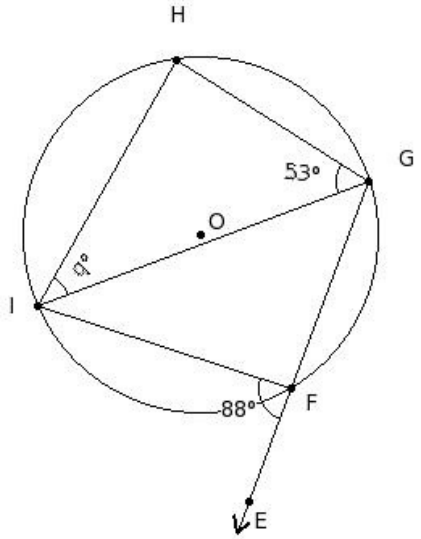
(i) 34° (ii) 29° (iii) 59° (iv) 44° (v) 39°

12. In the given figure, O is the centre of the circle. If ∠AOB = 64° and ∠BCE = 100°, find ∠DAO



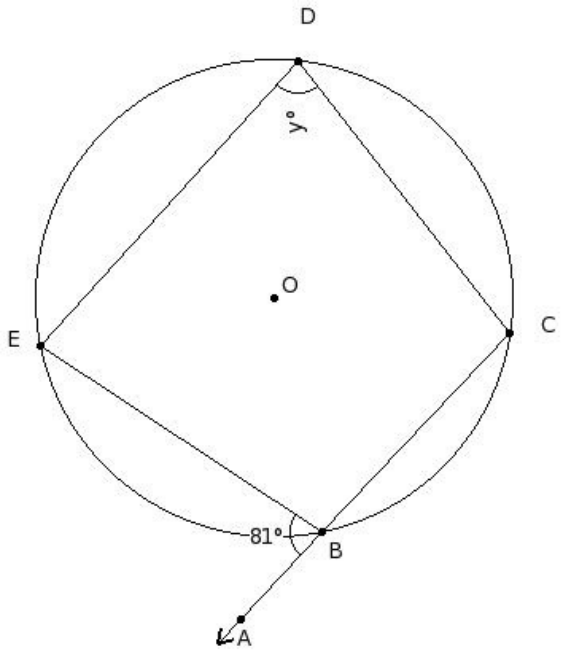
(i) 42° (ii) 47° (iii) 52° (iv) 57° (v) 72°

13. In the given figure, O is the centre of the circle. If ∠IGH = 53° and ∠EFI = 88°, find ∠GIH



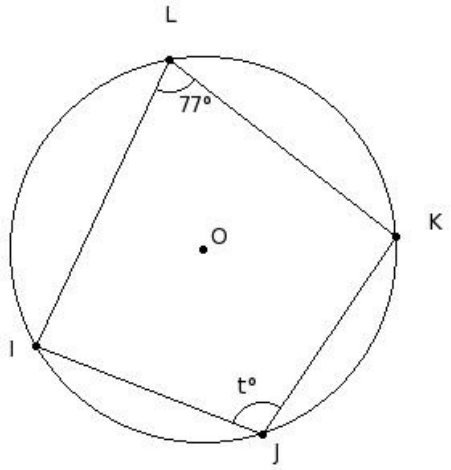
(i) 49° (ii) 54° (iii) 39° (iv) 69° (v) 44°

14. In the given figure, O is the centre of the circle. If ∠ABE = 81°, find ∠CDE



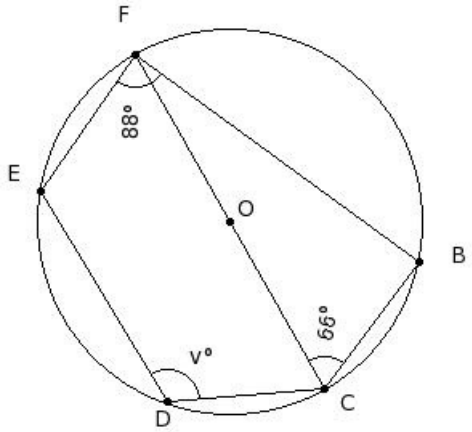
(i) 91° (ii) 96° (iii) 81° (iv) 86° (v) 111°

15. In the given figure, O is the centre of the circle. If ∠KLI = 77°, find ∠IJK



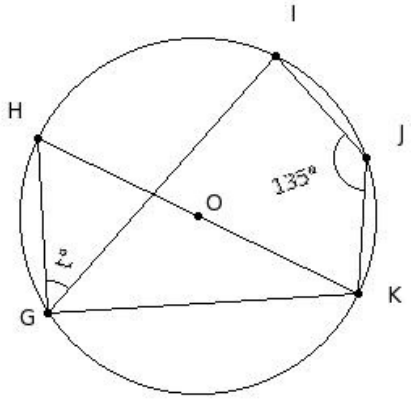
(i) 113° (ii) 108° (iii) 133° (iv) 118° (v) 103°

16. In the given figure, O is the centre of the circle and CF is a diameter. If ∠EFB = 88° and ∠BCF = 66°, find ∠CDE



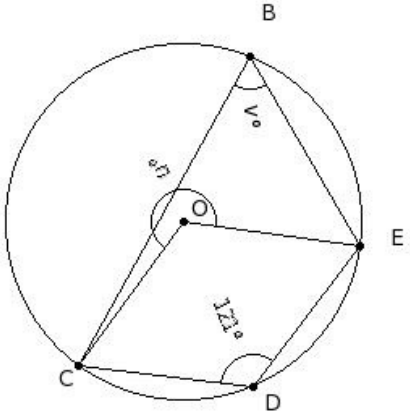
(i) 121° (ii) 126° (iii) 146° (iv) 131° (v) 116°

17. In the given figure, O is the centre of the circle and HK is a diameter. If ∠IJK = 135°, find ∠IGH



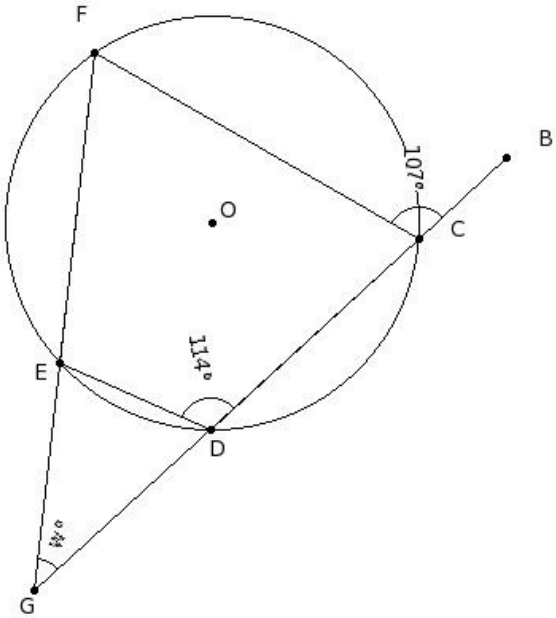
(i) 55° (ii) 75° (iii) 45° (iv) 50° (v) 60°

18. In the given figure, O is the centre of the circle. If ∠CDE = 121°, find ∠EOC + ∠CBE



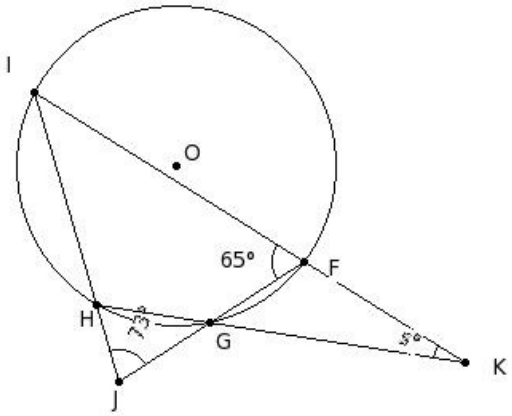
(i) 331° (ii) 301° (iii) 311° (iv) 316° (v) 306°

19. In the given figure, O is the centre of the circle. If ∠BCF = 107° and ∠CDE = 114°, find ∠DGE



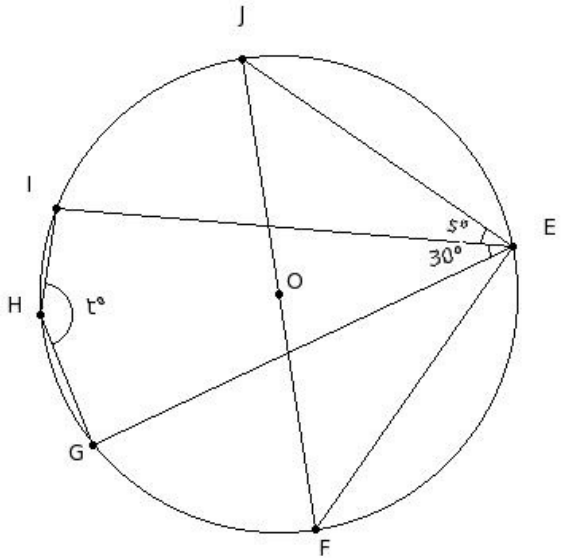
(i) 41° (ii) 51° (iii) 56° (iv) 46° (v) 71°

20. In the given figure, O is the centre of the circle . If ∠GJH = 73° and ∠GFI = 65°, find ∠FKG



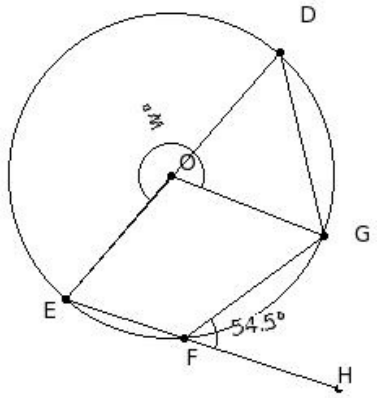
(i) 23° (ii) 53° (iii) 38° (iv) 28° (v) 33°

21. In the given figure, O is the centre and FJ is a diameter of the circle and chord FG is equal to chord IJ. If ∠GEI = 30°, find ∠IEJ + ∠GHI



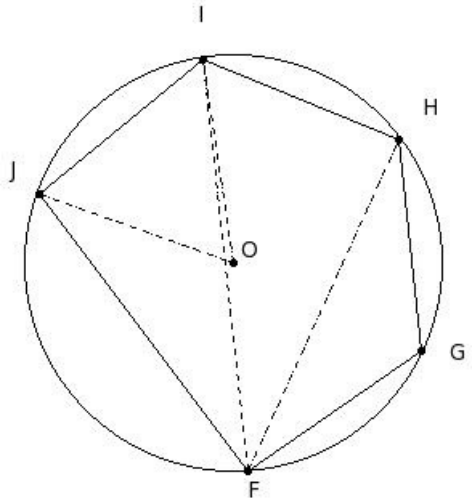
(i) 195° (ii) 190° (iii) 185° (iv) 210° (v) 180°

22. In the given figure, O is the centre of the circle. If ∠HFG = 54.5°, find reflex ∠GOE



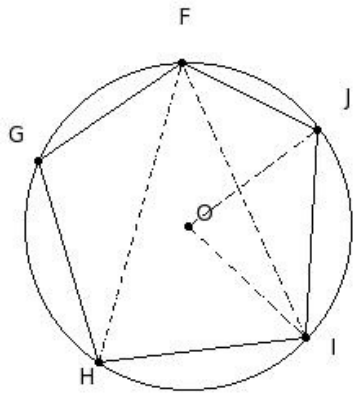
(i) 261° (ii) 256° (iii) 251° (iv) 281° (v) 266°

23. In the given figure, a pentagon is inscribed in a circle with centre O. Given GH = HI = IJ and ∠GHI = 118°. Find ∠GFH



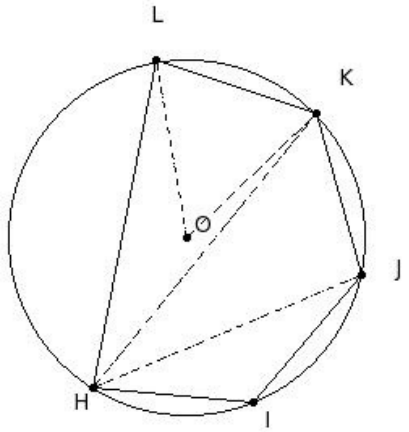
(i) 41° (ii) 31° (iii) 36° (iv) 46° (v) 61°

24. In the given figure, a pentagon is inscribed in a circle with centre O. Given GH = HI = IJ and ∠GHI = 100°. Find ∠GFJ



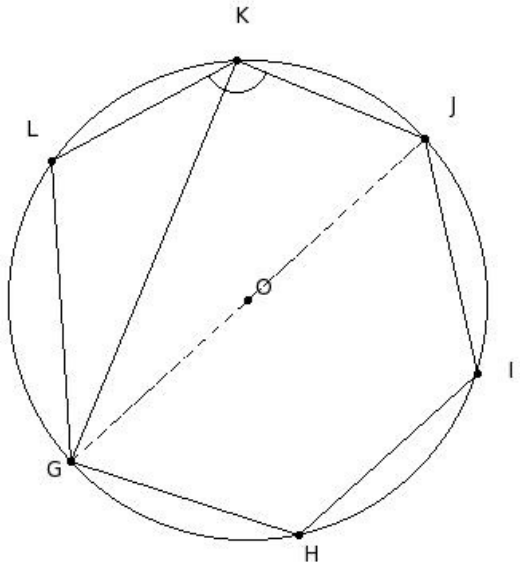
(i) 130° (ii) 120° (iii) 135° (iv) 150° (v) 125°

25. In the given figure, a pentagon is inscribed in a circle with centre O. Given IJ = JK = KL and ∠IJK = 124°. Find ∠KOL



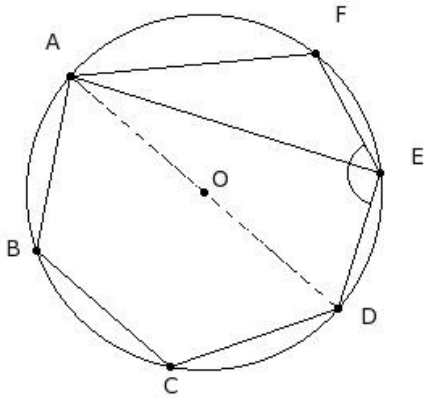
(i) 61° (ii) 66° (iii) 56° (iv) 86° (v) 71°

26. In the given figure, a hexagon is inscribed in a circle with centre O. Given GH = HI = IJ and ∠JKL = 128.94°. Find ∠GKL



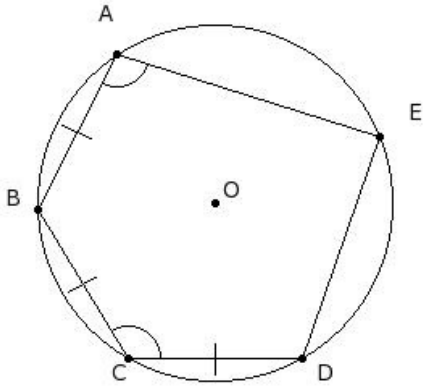
(i) 43.94° (ii) 68.94° (iii) 38.94° (iv) 53.94° (v) 48.94°

27. In the given figure, a hexagon is inscribed in a circle with centre O. Given AB = BC = CD and ∠DEF = 134.41°. Find ∠FAB



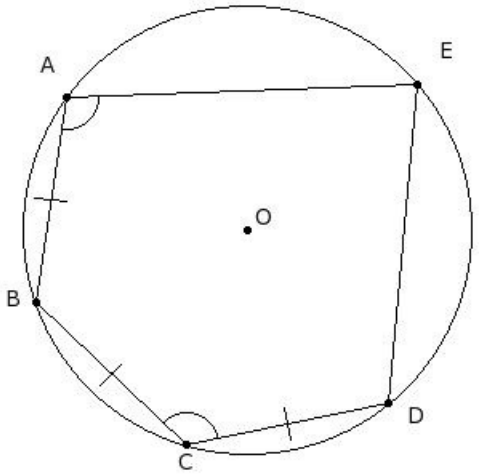
(i) 110.59° (ii) 115.59° (iii) 120.59° (iv) 135.59° (v) 105.59°

28. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 117° and ∠EAB = 100°. Find ∠ABC



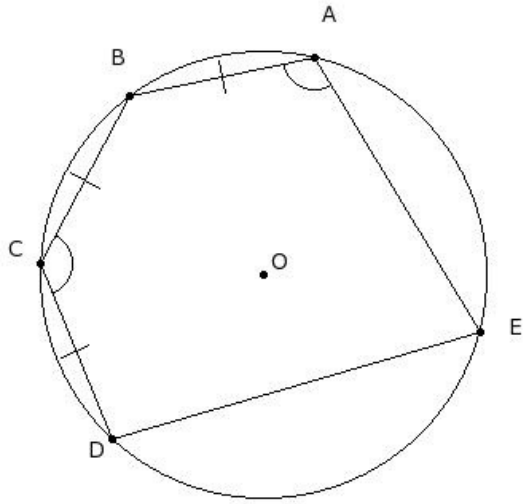
(i) 117° (ii) 147° (iii) 122° (iv) 127° (v) 132°

29. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 110° and ∠EAB = 101°. Find ∠CDE



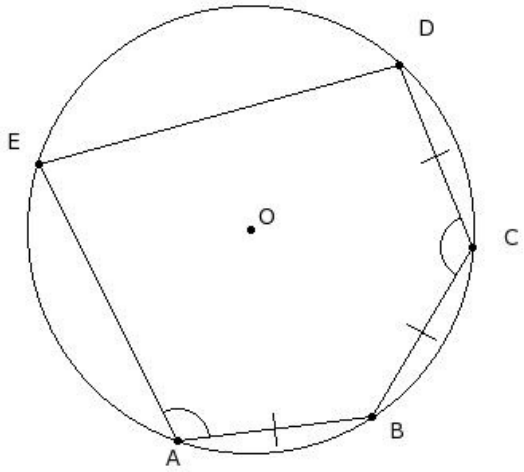
(i) 114° (ii) 144° (iii) 119° (iv) 124° (v) 129°

30. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 101° and ∠EAB = 109°. Find ∠AED



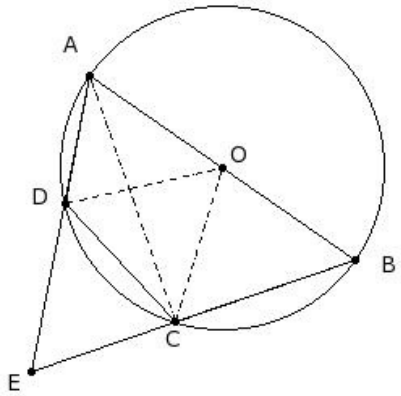
(i) 128.5° (ii) 118.5° (iii) 133.5° (iv) 123.5° (v) 148.5°

31. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 105° and ∠EAB = 110°. Find ∠EAD



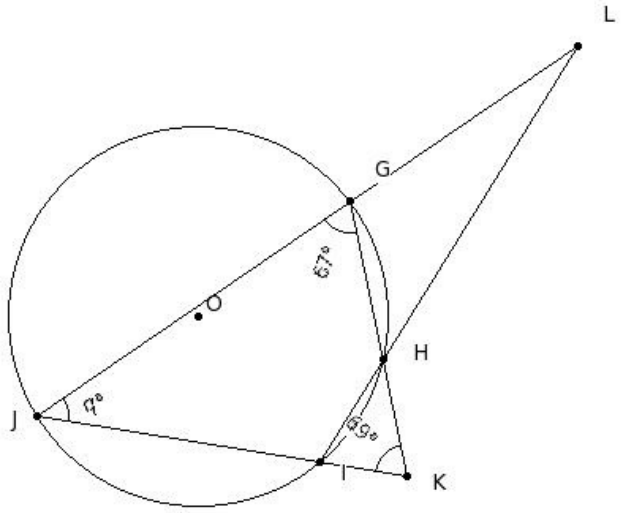
(i) 65° (ii) 40° (iii) 45° (iv) 35° (v) 50°

32. In the given figure, O is the centre of the circle. AB is a diameter of the circle and CD is equal to radius. Find ∠AEB



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

33. In the given figure, O is the centre of the circle. If ∠HKI = 69° and ∠HGJ = 67°, find ∠GJI



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

34. Which of the following statements are true?

a) If a rhombus is cyclic, it is a square.
b) If a kite is cyclic, it is a square.
c) If a parallelogram is cyclic, it is a rectangle.
d) If a trapezium is cyclic, it is a rectangle.
e) A cyclic quadrilateral is a regular polygon.

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

35. Which of the following are cyclic quadrilaterals?

a) rectangle
b) parallelogram
c) rhombus
d) trapezium
e) square
f) triangle

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

36. Which of the following statements are true?

a) If a circle can be inscribed in a quadrilateral, it must be a kite.
b) It is always possible to inscribe a circle in a quadrilateral.
c) If a circle can be inscribed in a quadrilateral, then it must be a square.
d) It is always possible to inscribe a circle in a regular polygon.
e) If a circle can be inscribed in a quadrilateral, the sum of the lengths of a pair of opposite sides is equal to the other pair.

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

37. Which of the following statements are true?

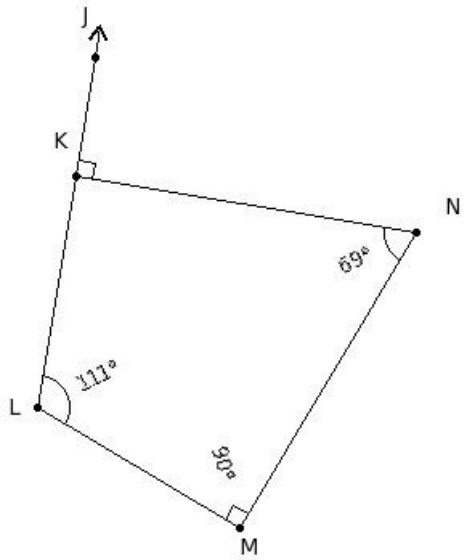
a) Angles in the opposite segments are complementary.
b) Angles in the same segment are equal.
c) Angles in the opposite segments are supplementary.
d) Angles subtended by equal length arcs in two circles are equal.

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

38. The opposite angles in a cyclic quadrilateral are

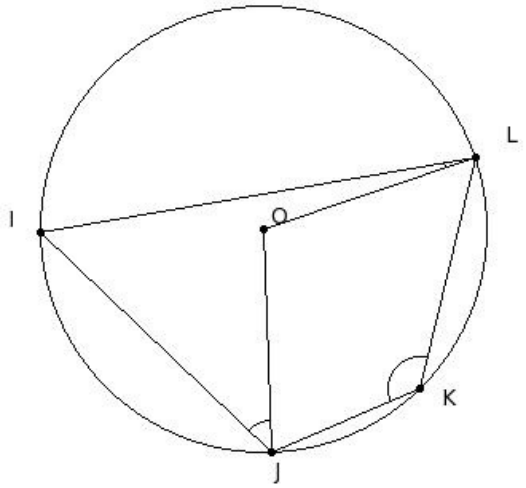
(i) supplementary (ii) linear pair (iii) equal (iv) complementary

39. In the given figure, KLMN is cyclic quadrilateral. If ∠LMN = 90°, find ∠JKN



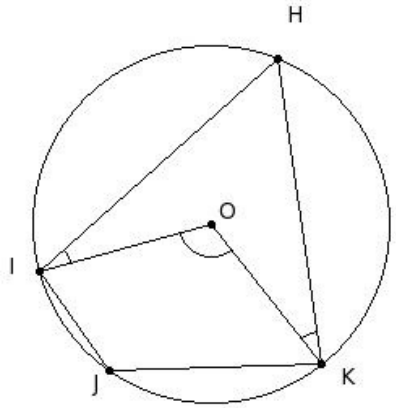
(i) 95° (ii) 90° (iii) 120° (iv) 100° (v) 105°

40. In the given figure, O is the centre of the circle. If ∠IJO = 44° and ∠OLI = 9°, find ∠JKL



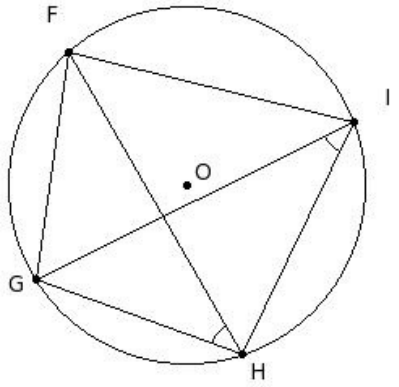
(i) 137° (ii) 127° (iii) 157° (iv) 132° (v) 142°

41. In the given figure, O is the centre of the circle. If ∠HIO = 26° and ∠OKH = 30°, find ∠IOK



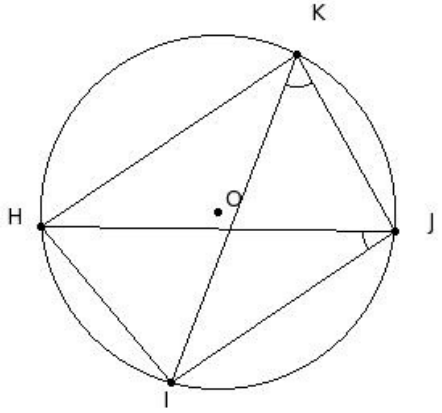
(i) 127° (ii) 117° (iii) 112° (iv) 142° (v) 122°

42. In the given figure, FGHI is a cyclic quadrilateral. If ∠FHG = 40° and ∠HIG = 38°, find ∠FGH



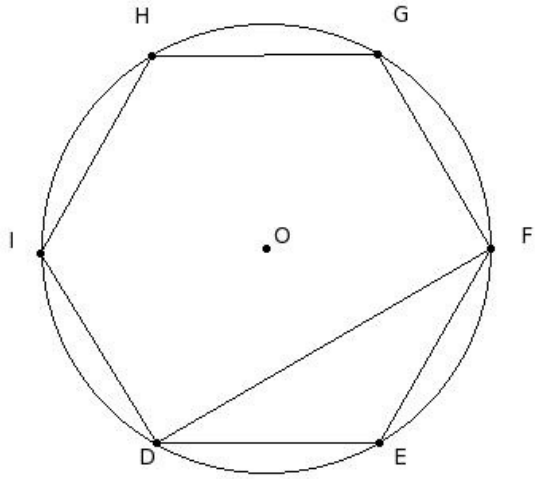
(i) 112° (ii) 132° (iii) 102° (iv) 107° (v) 117°

43. In the given figure, HIJK is a cyclic quadrilateral. If ∠HJI = 35° and ∠JKI = 50°, find ∠HKJ



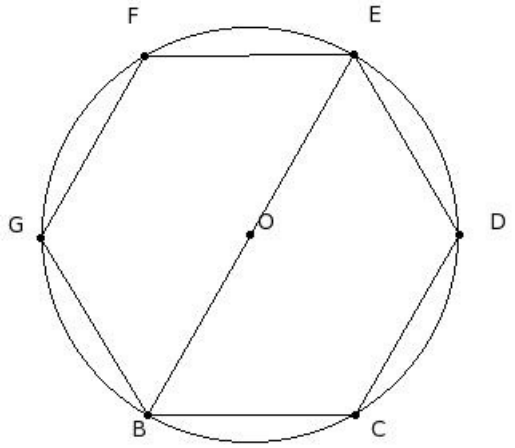
(i) 95° (ii) 100° (iii) 90° (iv) 85° (v) 115°

44. In the given figure, DEFGHI is a regular hexagon. Find ∠DFE



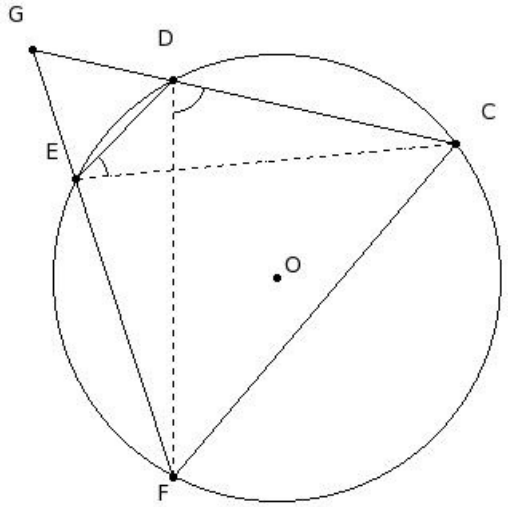
(i) 30° (ii) 45° (iii) 35° (iv) 40° (v) 60°

45. In the given figure, BCDEFG is a regular hexagon. Find ∠BED



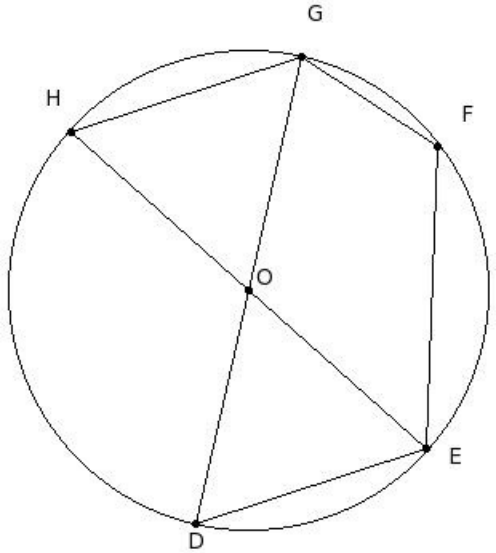
(i) 70° (ii) 75° (iii) 65° (iv) 90° (v) 60°

46. In the given figure, CDEF is a cyclic quadrilateral. If ∠CDF = 77° and ∠DEC = 40°, find ∠FCD



(i) 63° (ii) 93° (iii) 78° (iv) 68° (v) 73°

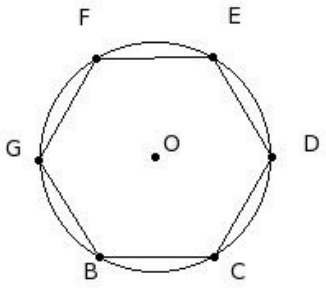
47. In the given figure, DE , EF , FG and GH are chords and DG , EH are diameters passing through the centre O. If ∠DOE = 61°. Find ∠EFG



(i) 130.5° (ii) 150.5° (iii) 120.5° (iv) 125.5° (v) 135.5°

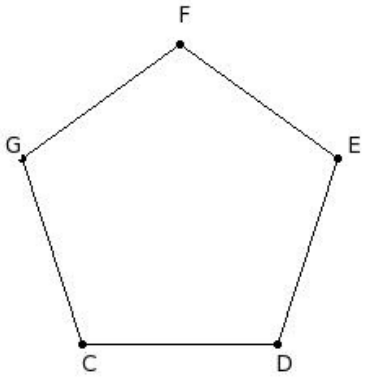
48. In the given figure, BCDEFG is a regular hexagon inscribed in a circle with centre O. Which of the following are true?

a) ∠BOG = 60°
b) ∠BDC = 60°
c) ∠GED = 90°
d) ∠CFD = 30°
e) ∠COE = 120°



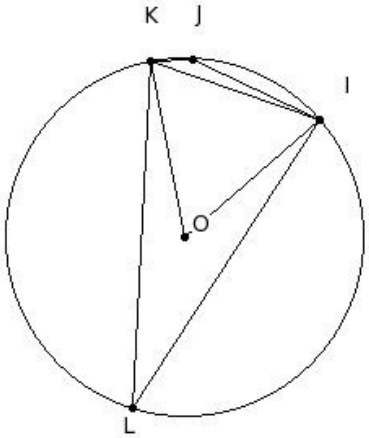
(i) {b,e,a} (ii) {b,a} (iii) {a,c,d,e} (iv) {b,d} (v) {b,c}

49. In the given figure, CDEFG is a regular pentagon . Find ∠CGE



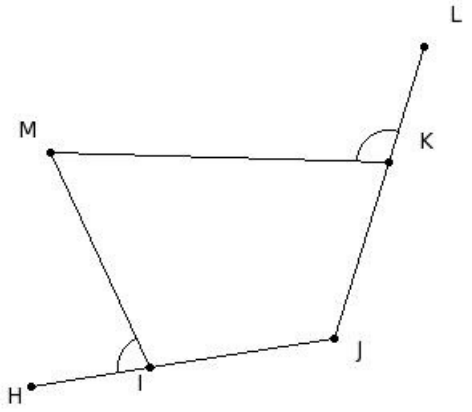
(i) 82° (ii) 72° (iii) 102° (iv) 77° (v) 87°

50. In the given figure, IK is a chord which is equal to the radius of the circle. Find ∠L and ∠J



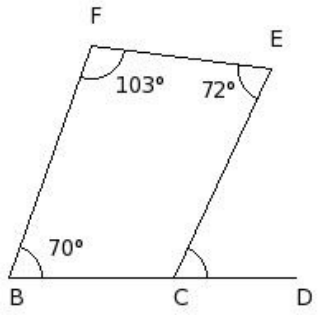
(i) 40° & 140° (ii) 50° & 130° (iii) 45° & 135° (iv) 60° & 120° (v) 30° & 150°

51. In the given figure, IJKM is a cyclic quadrilateral where JK and JI are produced to L and H respectively. If ∠HIM = 74°, find ∠LKM



(i) 121° (ii) 111° (iii) 106° (iv) 136° (v) 116°

52. In the given figure, ∠B = 70° , ∠E = 72° and ∠F = 103°, find ∠ECD



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

53. Which of the following statements are true?

a) A cyclic rhombus is a square.
b) A cyclic trapezium is a rectangle.
c) A cyclic parallelogram is a rectangle.
d) A cyclic parallelogram is a rhombus.
e) A cyclic kite is a square.

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

54. Which of the following statements are true?

a) Either pair of opposite angles of a cyclic quadrilateral are supplementary.
b) All parallelograms are cyclic.
c) An isosceles trapezium is cyclic.
d) A quadrilateral in which the diagonals are equal and bisect each other is cyclic.
e) The exterior angle of a quadrilateral and its interior opposite angle are supplementary.

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

55. Which of the following are not cyclic quadrilaterals?

a) rectangle
b) square
c) rhombus
d) isosceles trapezium
e) kite

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

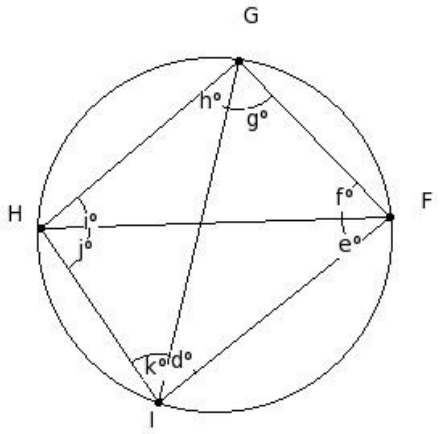
56. If BCDE is a cyclic quadrilateral and ∠B − ∠D = 36°, then ∠D

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

57. If GHIJ is a cyclic parallelogram, then ∠J

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

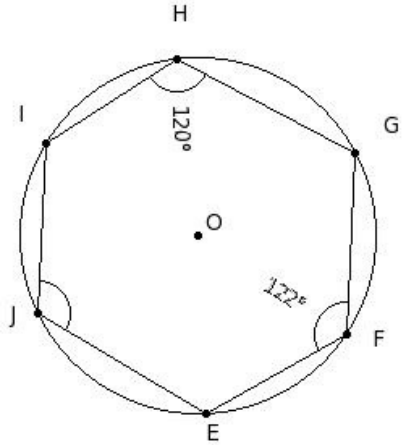
58. In the given figure, which of the following angle pairs are equal?



(i) {(e,h),(g,f),(d,k),(i,j)} (ii) {(f,e),(k,i),(g,j),(d,h)} (iii) {(d,i),(e,h),(f,k),(g,j)} (iv) {(d,j),(k,h),(i,f),(e,g)}

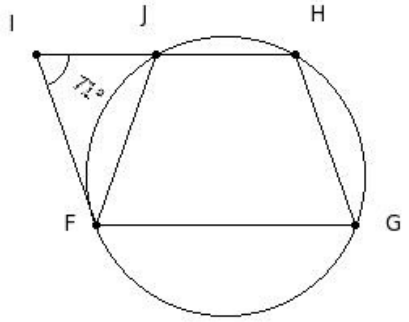
(v) {(e,i),(f,g),(d,k),(j,h)}

59. EFGHIJ is a hexagon inscribed in a circle. Given ∠EFG = 122° & ∠GHI = 120°, find ∠IJE



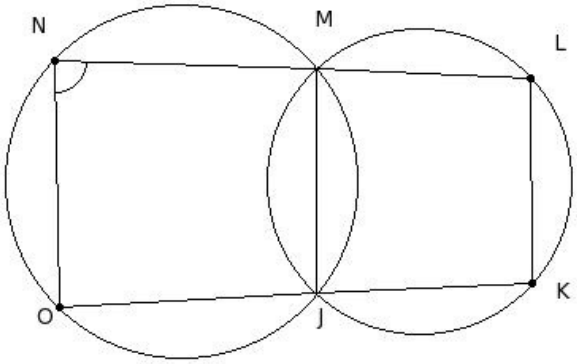
(i) 118° (ii) 123° (iii) 148° (iv) 128° (v) 133°

60. In the given figure, FGHI is a parallelogram. The circumcircle of △FGH cuts HI at J. Given ∠FIJ = 71°, find ∠IFJ



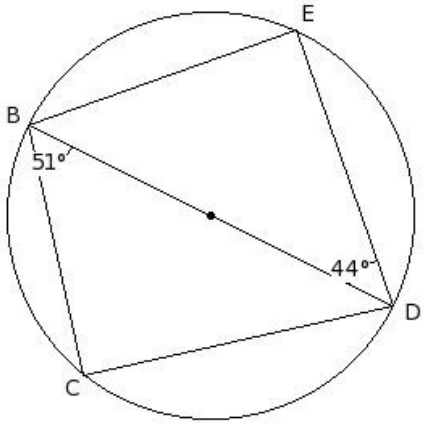
(i) 68° (ii) 48° (iii) 43° (iv) 38° (v) 53°

61. In the given figure, NL and OK are two lines passing through the points of intersection of the two circles at M and J. If ∠ONM = 87° , find ∠MLK



(i) 123° (ii) 98° (iii) 108° (iv) 93° (v) 103°

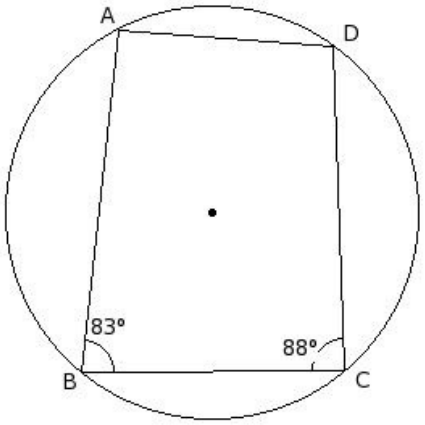
62. In the given figure, find the angles of the quadrilateral.



(i) B = 97°, C = 90°, D = 83°, E = 90° (ii) B = 98°, C = 90°, D = 82°, E = 90° (iii) B = 95°, C = 90°, D = 85°, E = 90°

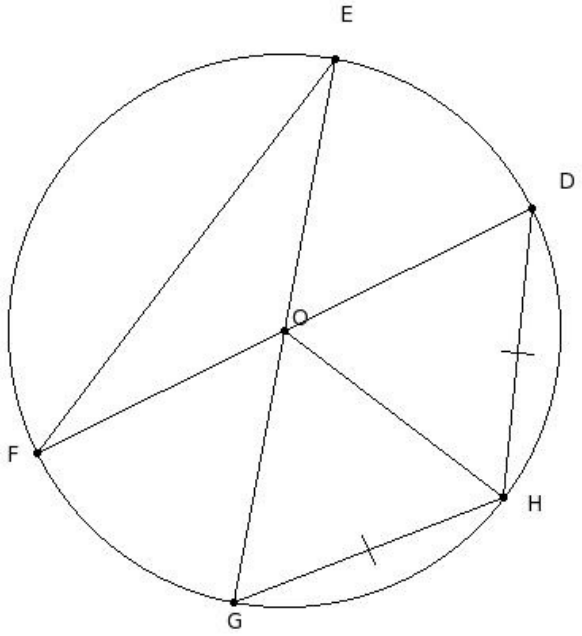
(iv) B = 99°, C = 90°, D = 81°, E = 90° (v) B = 96°, C = 90°, D = 84°, E = 90°

63. In the given figure, find the remaining angles of the quadrilateral.



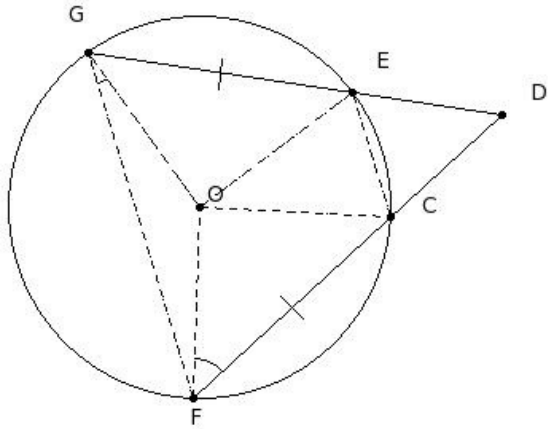
(i) A=94°,D=99° (ii) A=93°,D=98° (iii) A=92°,D=97° (iv) A=91°,D=96° (v) A=90°,D=95°

64. In the given figure, GH & HD are equal length chords, DF and EG are diameters. Given ∠OGH = 58° find, ∠OEF



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

65. In the given figure, ∠OGF = 19° & ∠EDC = 50°, find ∠OFC



(i) 61° (ii) 56° (iii) 76° (iv) 51° (v) 46°

Assignment Key

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

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