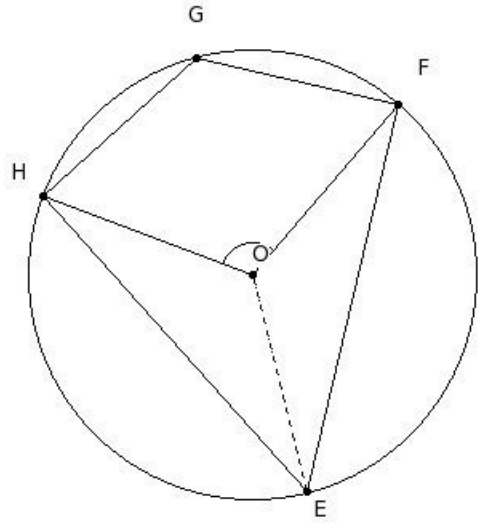
EduSahara™ Assignment

Name : Cyclic Quadrilateral

Chapter : Circles

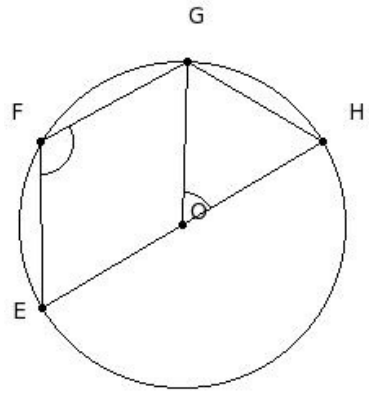
Grade : CBSE Grade IX

1. O is the centre of the circle. If ∠FOH = 110°, find ∠E



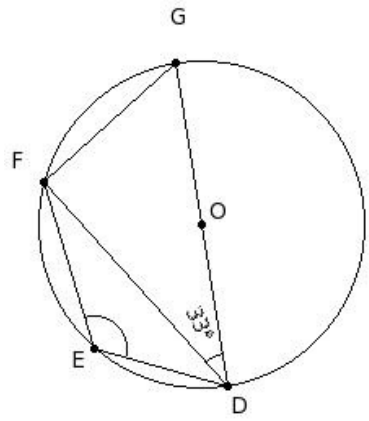
(i) 60° (ii) 70° (iii) 55° (iv) 85° (v) 65°

2. O is the centre of the circle. If ∠EFG = 118.5°, find ∠GOH



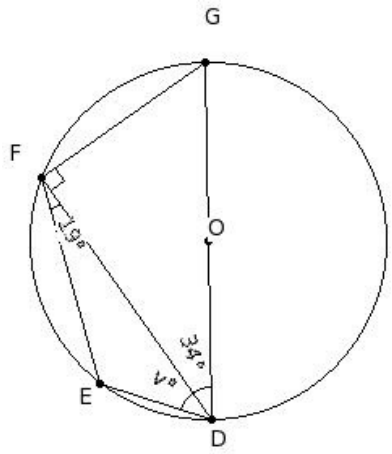
(i) 72° (ii) 62° (iii) 67° (iv) 87° (v) 57°

3. O is the centre of the circle and ∠GDF = 33°, find ∠DEF



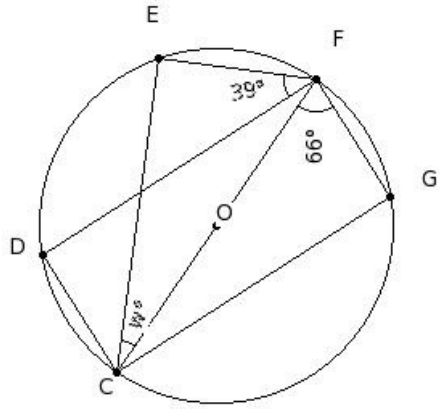
(i) 123° (ii) 133° (iii) 153° (iv) 128° (v) 138°

4. O is the centre of the circle. If ∠FDG = 34° and ∠DFE = 19°, find ∠EDF



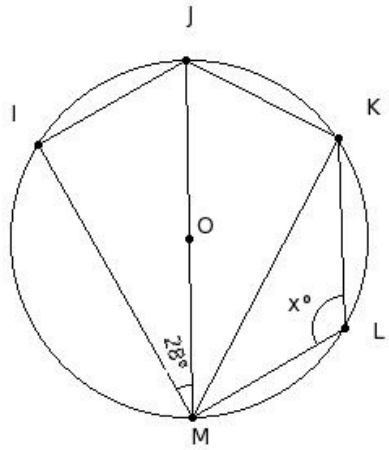
(i) 47° (ii) 67° (iii) 52° (iv) 42° (v) 37°

5. In the given figure, O is the centre of the circle and CF is a diameter. If ∠CFG = 66° and ∠DFE = 39°, find ∠FCE



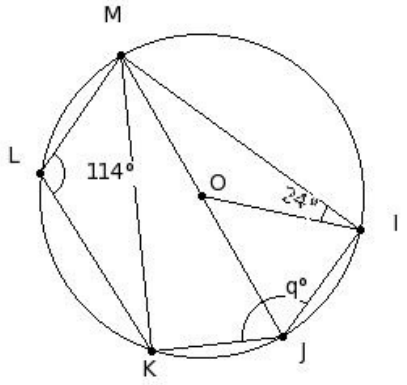
(i) 42° (ii) 32° (iii) 57° (iv) 27° (v) 37°

6. In the given figure, O is the centre of the circle and chord IJ is equal to chord JK and JM is a diameter. If ∠IMJ = 28°, find ∠MLK



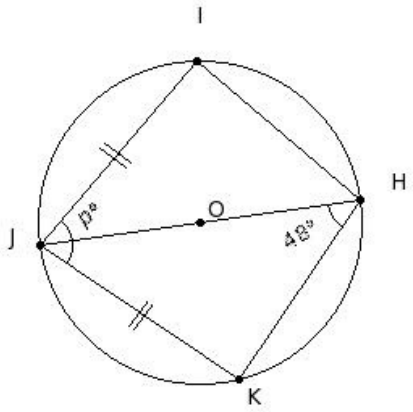
(i) 118° (ii) 133° (iii) 148° (iv) 123° (v) 128°

7. In the given figure, O is the centre of the circle and chord IJ is equal to chord JK and JM is a diameter. If ∠MIO = 24° and ∠KLM = 114°, find ∠IJK



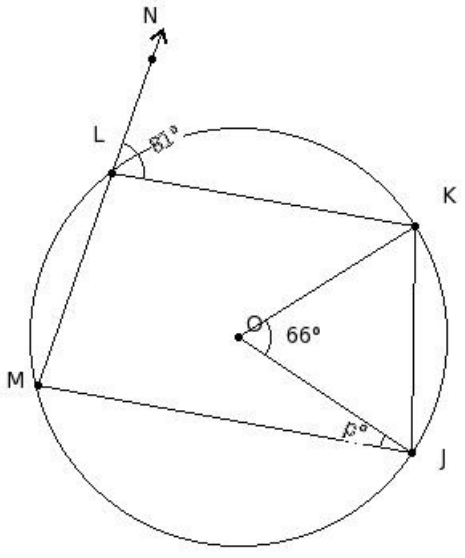
(i) 132° (ii) 162° (iii) 147° (iv) 142° (v) 137°

8. 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 = 48° find ∠IJK



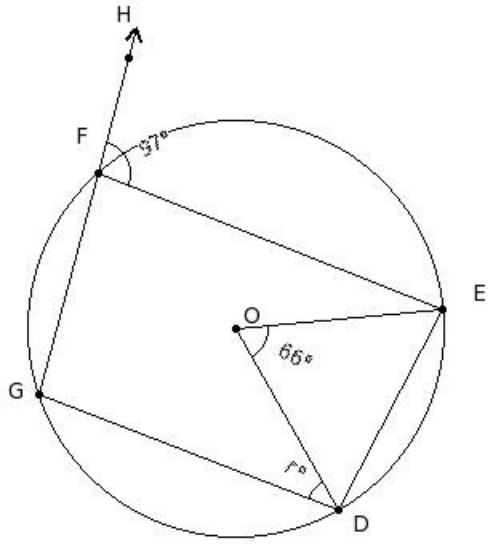
(i) 89° (ii) 94° (iii) 84° (iv) 99° (v) 114°

9. In the given figure, O is the centre of the circle. If ∠JOK = 66° and ∠KLN = 81°, find ∠MJO



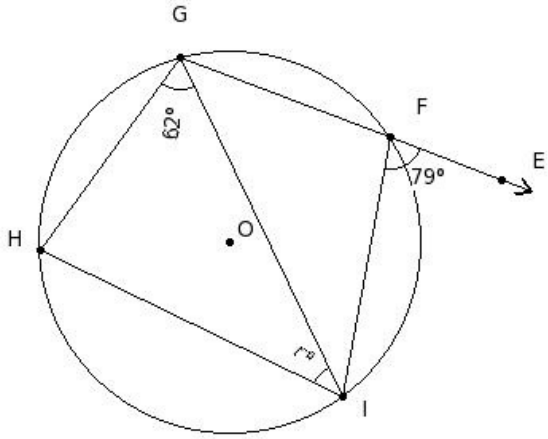
(i) 29° (ii) 24° (iii) 54° (iv) 39° (v) 34°

10. In the given figure, O is the centre of the circle. If ∠DOE = 66° and ∠EFH = 97°, find ∠GDO



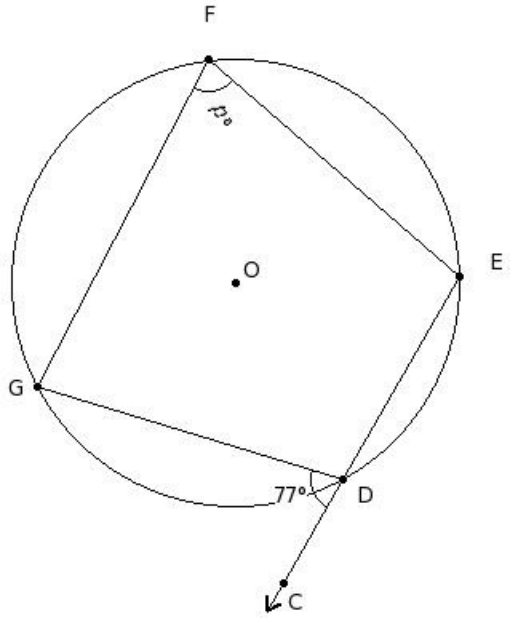
(i) 50° (ii) 70° (iii) 55° (iv) 45° (v) 40°

11. In the given figure, O is the centre of the circle. If ∠IGH = 62° and ∠EFI = 79°, find ∠GIH



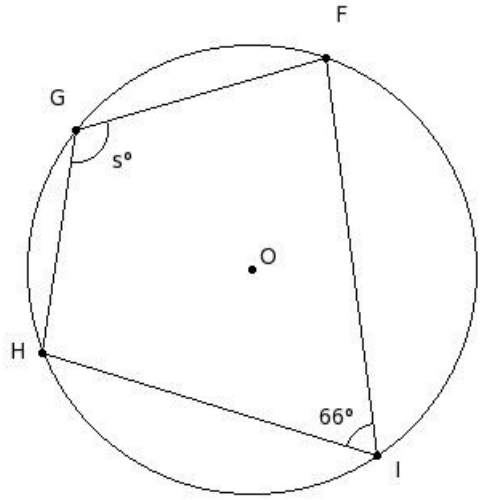
(i) 54° (ii) 44° (iii) 69° (iv) 49° (v) 39°

12. In the given figure, O is the centre of the circle. If ∠CDG = 77°, find ∠EFG



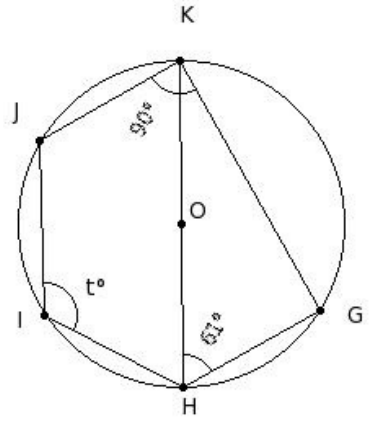
(i) 92° (ii) 87° (iii) 82° (iv) 77° (v) 107°

13. In the given figure, O is the centre of the circle. If ∠HIF = 66°, find ∠FGH



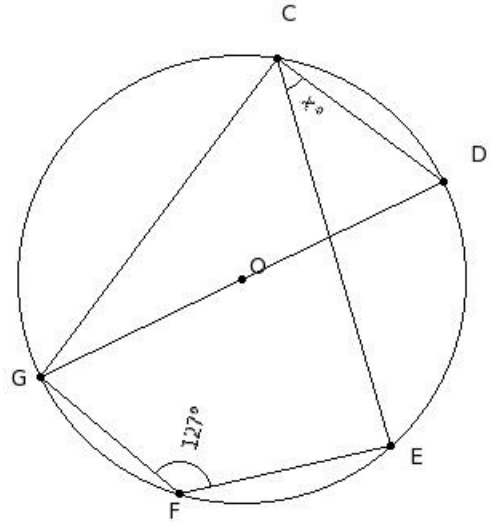
(i) 124° (ii) 144° (iii) 114° (iv) 119° (v) 129°

14. In the given figure, O is the centre of the circle and HK is a diameter. If ∠JKG = 90° and ∠GHK = 61°, find ∠HIJ



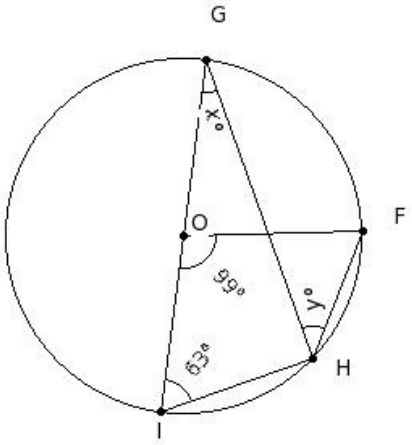
(i) 119° (ii) 149° (iii) 134° (iv) 129° (v) 124°

15. In the given figure, O is the centre of the circle and DG is a diameter. If ∠EFG = 127°, find ∠ECD



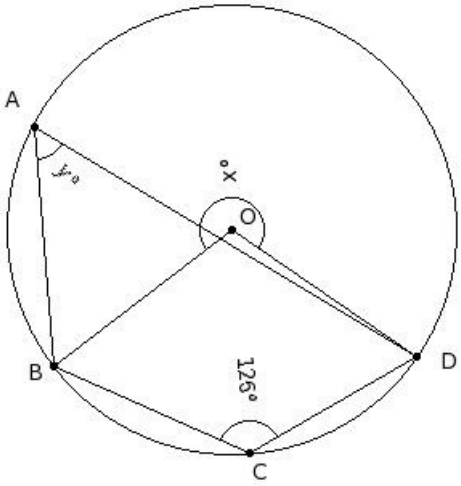
(i) 52° (ii) 67° (iii) 47° (iv) 42° (v) 37°

16. In the given figure, O is the centre of the circle and GI is a diameter. If ∠FOI = 99° and ∠OIH = 63°, find ∠GHF + ∠HGI



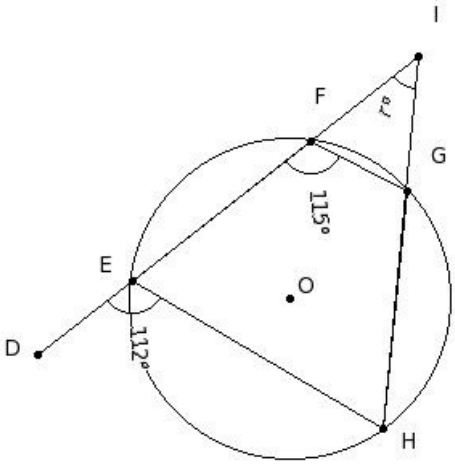
(i) 77.5° (ii) 72.5° (iii) 82.5° (iv) 67.5° (v) 97.5°

17. In the given figure, O is the centre of the circle. If ∠BCD = 126°, find ∠DOB + ∠BAD



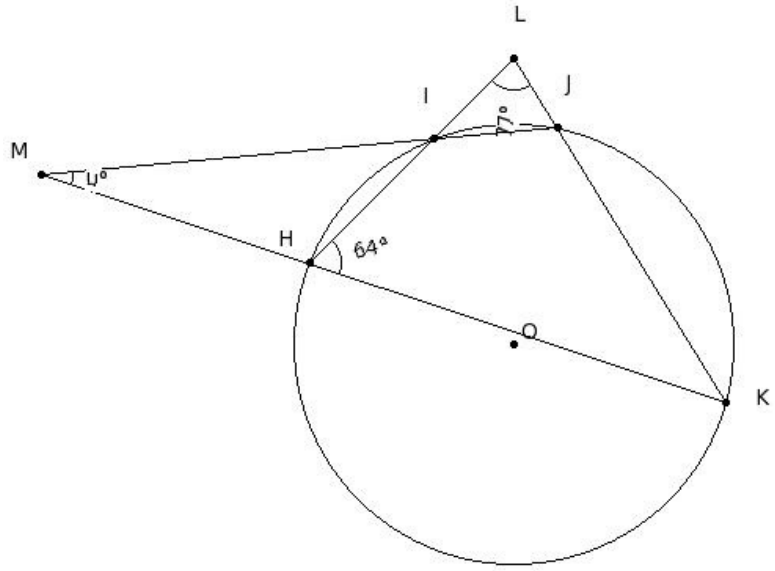
(i) 311° (ii) 306° (iii) 316° (iv) 321° (v) 336°

18. In the given figure, O is the centre of the circle. If ∠DEH = 112° and ∠EFG = 115°, find ∠FIG



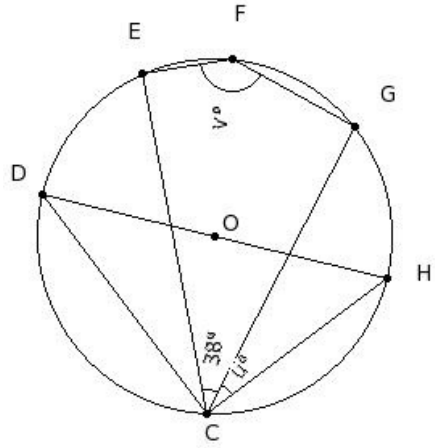
(i) 47° (ii) 62° (iii) 57° (iv) 77° (v) 52°

19. In the given figure, O is the centre of the circle . If ∠ILJ = 77° and ∠IHK = 64°, find ∠HMI



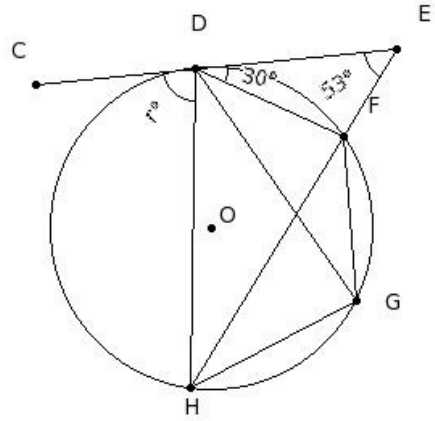
(i) 25° (ii) 35° (iii) 55° (iv) 30° (v) 40°

20. In the given figure, O is the centre and DH is a diameter of the circle and chord DE is equal to chord GH. If ∠ECG = 38°, find ∠GCH + ∠EFG



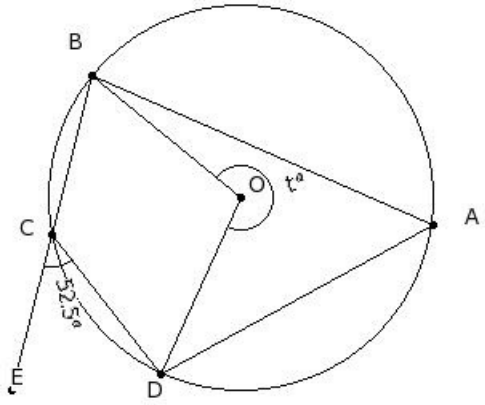
(i) 183° (ii) 198° (iii) 178° (iv) 173° (v) 168°

21. In the given figure, O is the centre of the circle and CE is the tangent at D. If ∠DEF = 53°,∠EDF = 30°, find ∠HDC



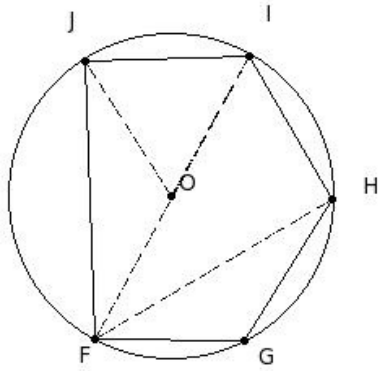
(i) 113° (ii) 88° (iii) 98° (iv) 83° (v) 93°

22. In the given figure, O is the centre of the circle. If ∠ECD = 52.5°, find reflex ∠DOB



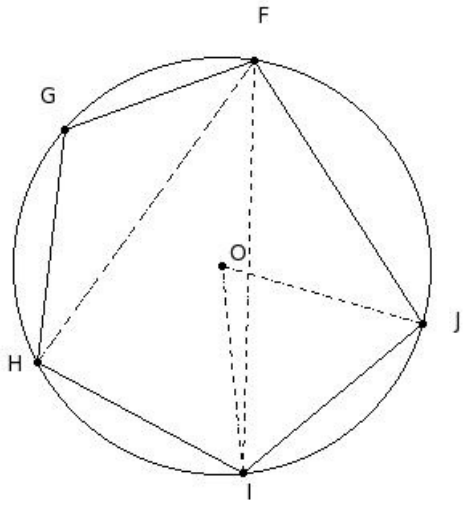
(i) 255° (ii) 260° (iii) 265° (iv) 270° (v) 285°

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



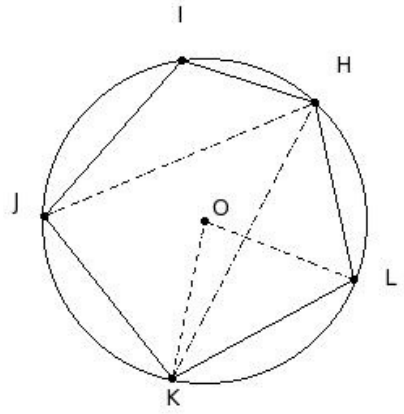
(i) 46° (ii) 41° (iii) 31° (iv) 61° (v) 36°

24. In the given figure, a pentagon is inscribed in a circle with centre O. Given GH = HI = IJ and ∠GHI = 112°. Find ∠GFJ



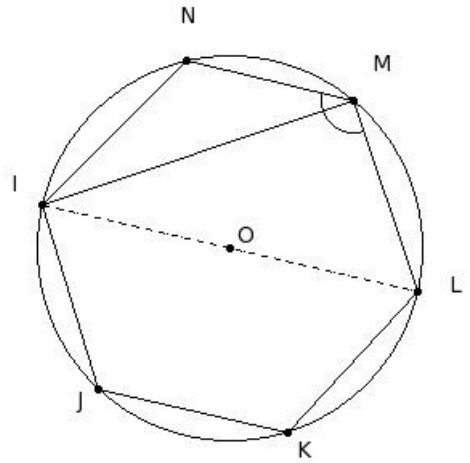
(i) 107° (ii) 117° (iii) 102° (iv) 112° (v) 132°

25. In the given figure, a pentagon is inscribed in a circle with centre O. Given IJ = JK = KL and ∠IJK = 100°. Find ∠KOL



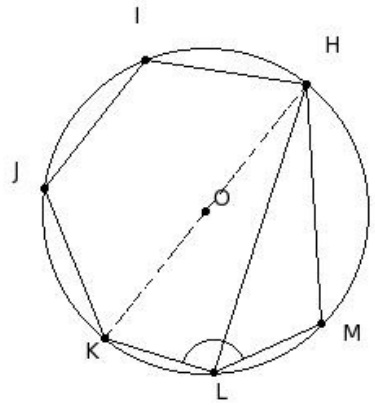
(i) 80° (ii) 110° (iii) 95° (iv) 85° (v) 90°

26. In the given figure, a hexagon is inscribed in a circle with centre O. Given IJ = JK = KL and ∠LMN = 122.1°. Find ∠IMN



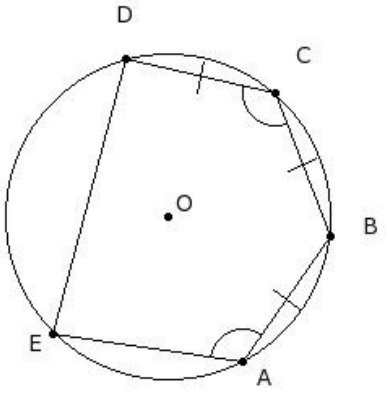
(i) 32.1° (ii) 42.1° (iii) 47.1° (iv) 62.1° (v) 37.1°

27. In the given figure, a hexagon is inscribed in a circle with centre O. Given HI = IJ = JK and ∠KLM = 138.16°. Find ∠MHI



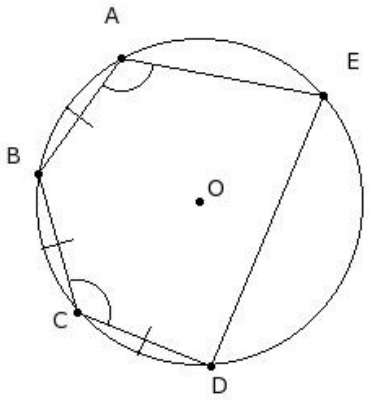
(i) 106.84° (ii) 131.84° (iii) 101.84° (iv) 116.84° (v) 111.84°

28. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 112° and ∠EAB = 116°. Find ∠ABC



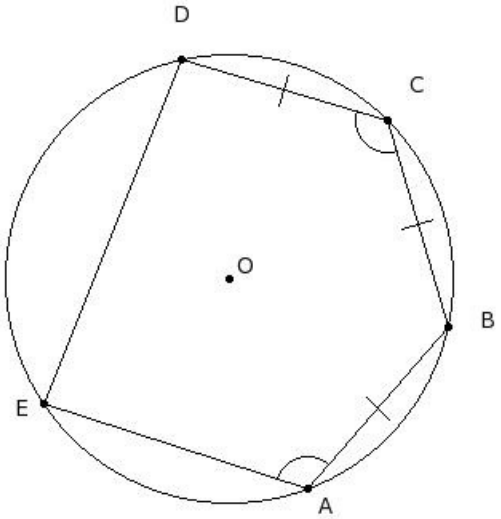
(i) 127° (ii) 112° (iii) 117° (iv) 122° (v) 142°

29. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 104° and ∠EAB = 115°. Find ∠CDE



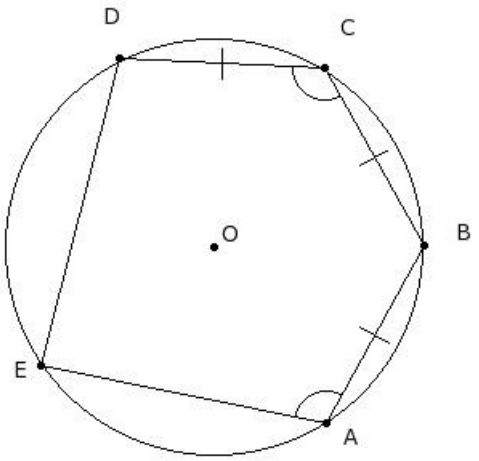
(i) 108° (ii) 118° (iii) 103° (iv) 133° (v) 113°

30. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 115° and ∠EAB = 113°. Find ∠AED



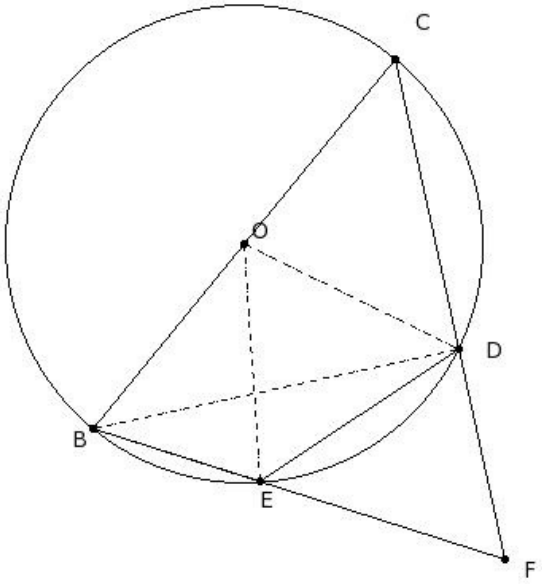
(i) 102.5° (ii) 97.5° (iii) 127.5° (iv) 112.5° (v) 107.5°

31. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 116° and ∠EAB = 107°. Find ∠EAD



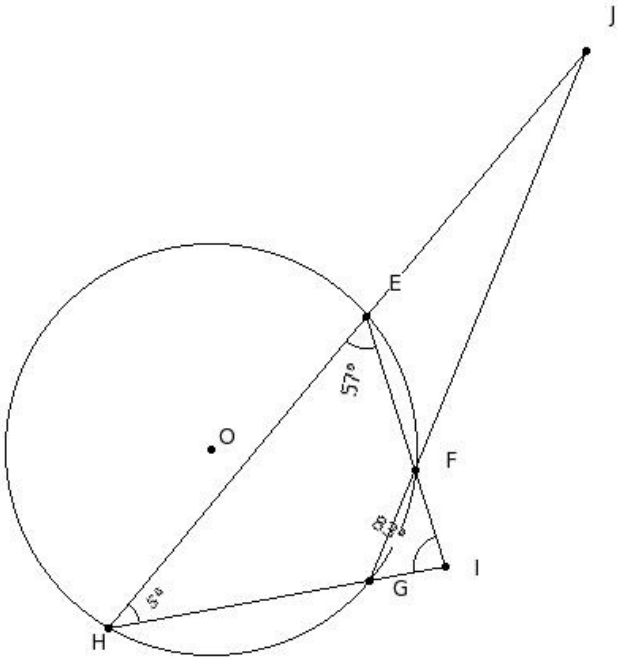
(i) 58° (ii) 43° (iii) 53° (iv) 48° (v) 73°

32. In the given figure, O is the centre of the circle. BC is a diameter of the circle and DE is equal to radius. Find ∠BFC



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

33. In the given figure, O is the centre of the circle. If ∠FIG = 83° and ∠FEH = 57°, find ∠EHG



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

34. Which of the following statements are true?

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

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

35. Which of the following are cyclic quadrilaterals?

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

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

36. Which of the following statements are true?

a) It is always possible to inscribe a circle in a regular polygon.
b) 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.
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 quadrilateral.
e) If a circle can be inscribed in a quadrilateral, it must be a kite.

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

37. Which of the following statements are true?

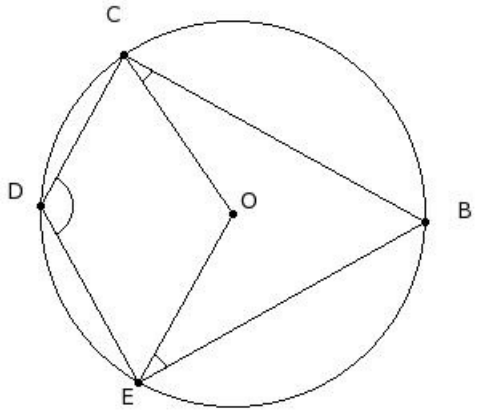
a) Angles in the opposite segments are complementary.
b) Angles in the opposite segments are supplementary.
c) Angles subtended by equal length arcs in two circles are equal.
d) Angles in the same segment are equal.

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

38. The opposite angles in a cyclic quadrilateral are

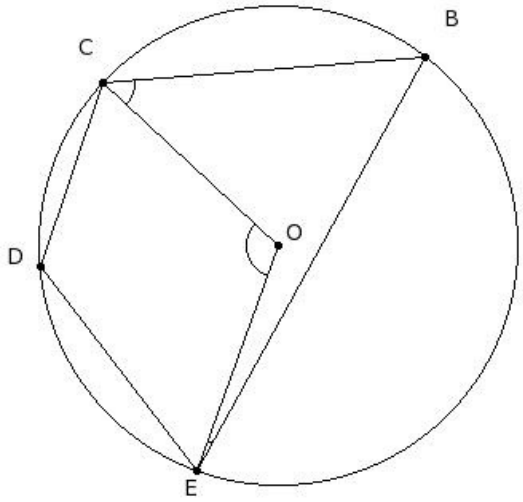
(i) supplementary (ii) linear pair (iii) complementary (iv) equal

39. In the given figure, O is the centre of the circle. If ∠BCO = 27° and ∠OEB = 31°, find ∠CDE



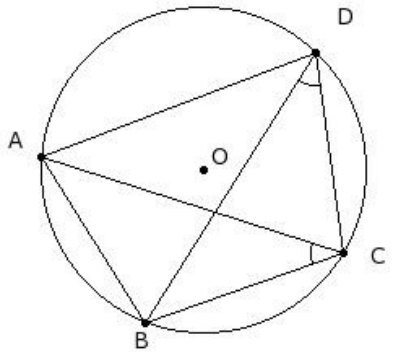
(i) 137° (ii) 127° (iii) 152° (iv) 122° (v) 132°

40. In the given figure, O is the centre of the circle. If ∠BCO = 47° and ∠OEB = 9°, find ∠COE



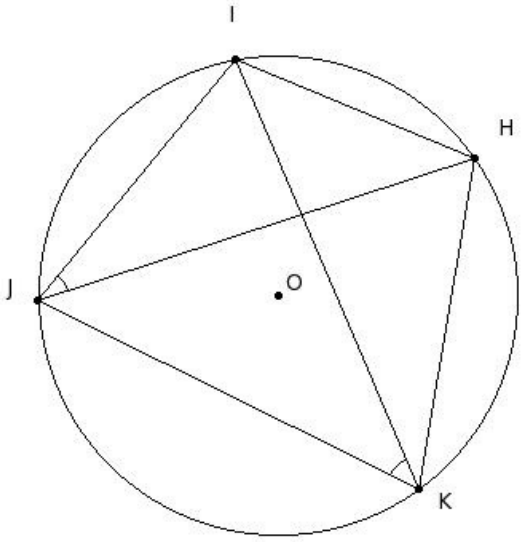
(i) 112° (ii) 142° (iii) 122° (iv) 117° (v) 127°

41. In the given figure, ABCD is a cyclic quadrilateral. If ∠ACB = 37° and ∠CDB = 40°, find ∠ABC



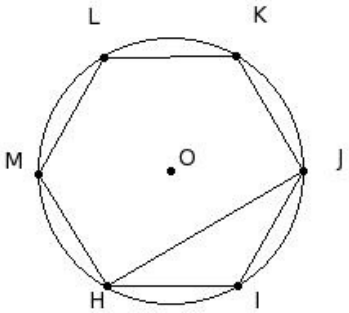
(i) 108° (ii) 133° (iii) 103° (iv) 113° (v) 118°

42. In the given figure, HIJK is a cyclic quadrilateral. If ∠HJI = 33° and ∠JKI = 41°, find ∠HKJ



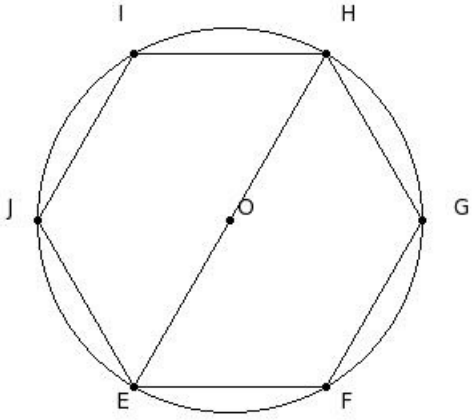
(i) 89° (ii) 79° (iii) 104° (iv) 74° (v) 84°

43. In the given figure, HIJKLM is a regular hexagon. Find ∠HJI



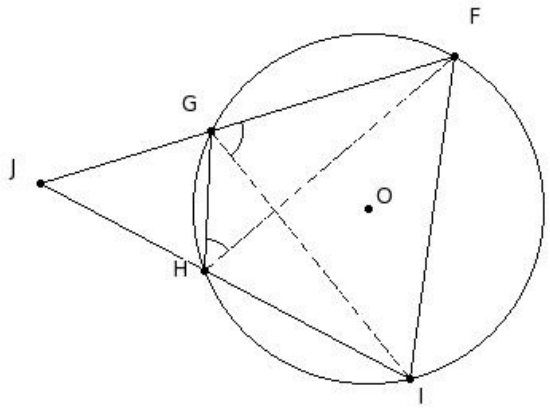
(i) 45° (ii) 40° (iii) 30° (iv) 60° (v) 35°

44. In the given figure, EFGHIJ is a regular hexagon. Find ∠EHG



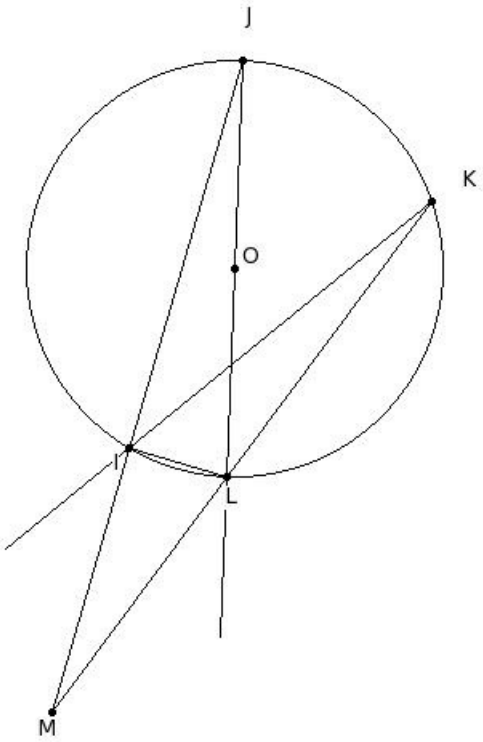
(i) 75° (ii) 65° (iii) 70° (iv) 90° (v) 60°

45. In the given figure, FGHI is a cyclic quadrilateral. If ∠FGI = 68° and ∠GHF = 47°, find ∠GHI



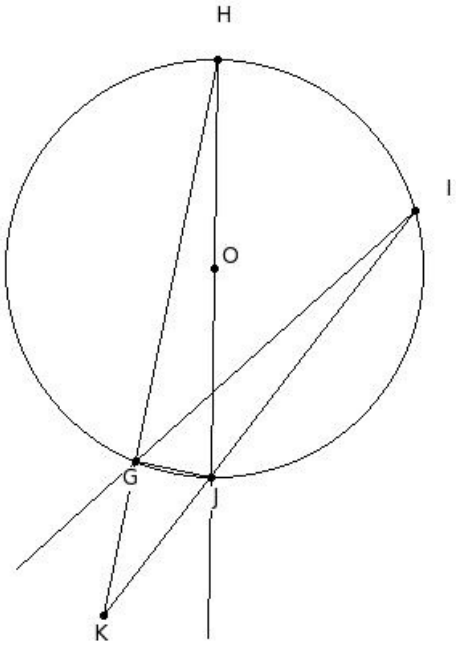
(i) 130° (ii) 145° (iii) 115° (iv) 120° (v) 125°

46. In the given figure, ∠IKL = 14° and ∠IML = 20°, find ∠KIL



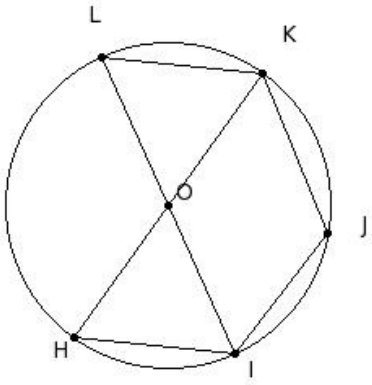
(i) 86° (ii) 71° (iii) 56° (iv) 66° (v) 61°

47. In the given figure, ∠GIJ = 11° and ∠GKJ = 26°, find ∠HJG



(i) 89° (ii) 79° (iii) 94° (iv) 109° (v) 84°

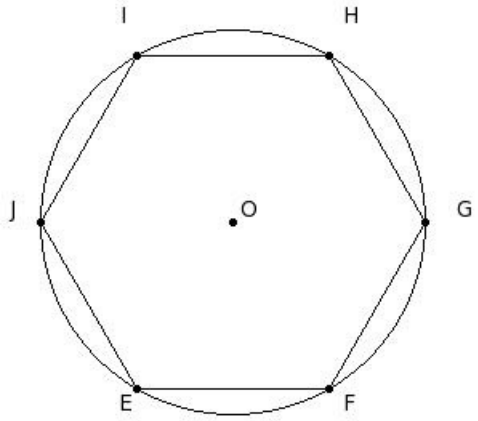
48. In the given figure, HI , IJ , JK and KL are chords and HK , IL are diameters passing through the centre O. If ∠HOI = 60°. Find ∠IJK



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

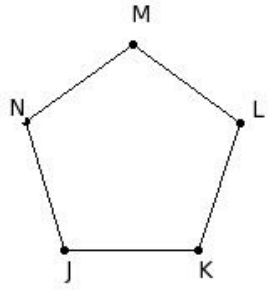
49. In the given figure, EFGHIJ is a regular hexagon inscribed in a circle with centre O. Which of the following are true?

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



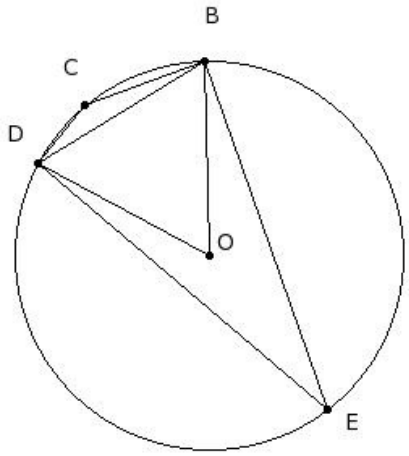
(i) {b,e,a} (ii) {a,c,d,e} (iii) {b,a} (iv) {b,c} (v) {b,d}

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



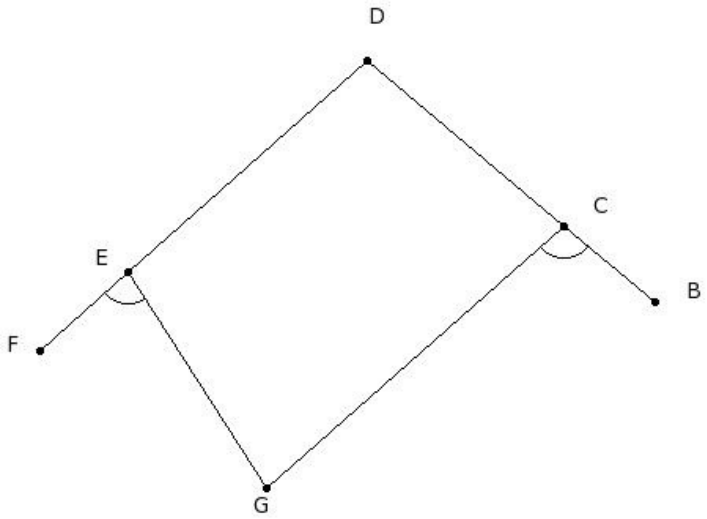
(i) 87° (ii) 72° (iii) 77° (iv) 82° (v) 102°

51. In the given figure, BD is a chord which is equal to the radius of the circle. Find ∠E and ∠C



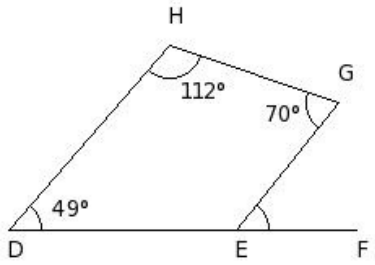
(i) 40° & 140° (ii) 50° & 130° (iii) 30° & 150° (iv) 60° & 120° (v) 45° & 135°

52. In the given figure, CDEG is a cyclic quadrilateral where DE and DC are produced to F and B respectively. If ∠BCG = 99°, find ∠FEG



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

53. In the given figure, ∠D = 49° , ∠G = 70° and ∠H = 112°, find ∠GEF



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

54. Which of the following statements are true?

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

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

55. Which of the following statements are true?

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

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

56. Which of the following are not cyclic quadrilaterals?

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

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

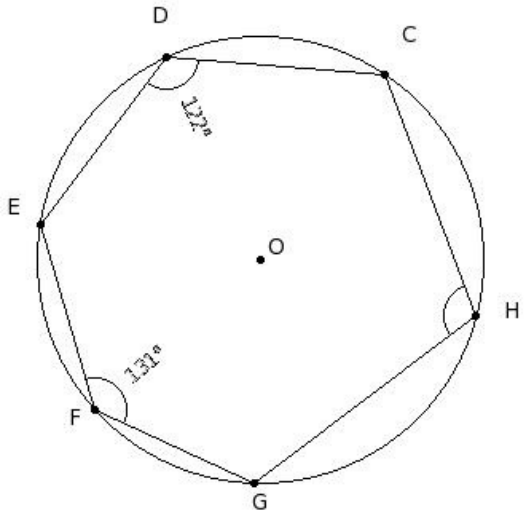
57. If GHIJ is a cyclic quadrilateral and ∠G − ∠I = 26°, then ∠I

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

58. If JKLM is a cyclic parallelogram, then ∠M

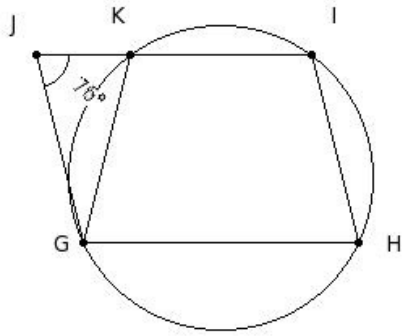
(i) 95° (ii) 120° (iii) 90° (iv) 100° (v) 105°

59. CDEFGH is a hexagon inscribed in a circle. Given ∠CDE = 122° & ∠EFG = 131°, find ∠GHC



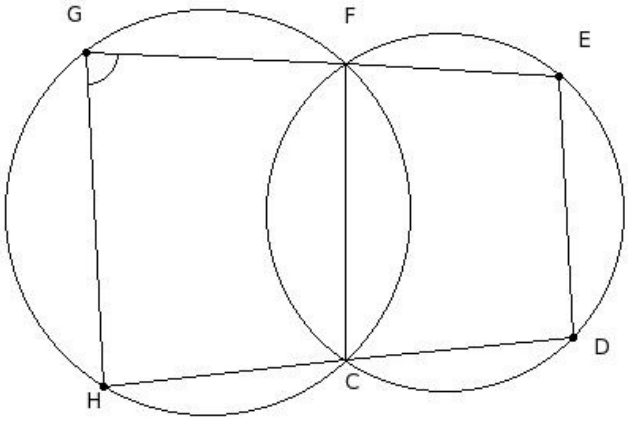
(i) 112° (ii) 107° (iii) 122° (iv) 117° (v) 137°

60. In the given figure, GHIJ is a parallelogram. The circumcircle of △GHI cuts IJ at K. Given ∠GJK = 76°, find ∠JGK



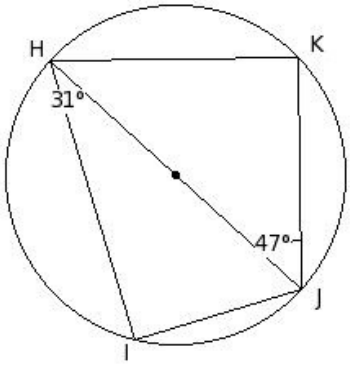
(i) 58° (ii) 33° (iii) 38° (iv) 28° (v) 43°

61. In the given figure, GE and HD are two lines passing through the points of intersection of the two circles at F and C. If ∠HGF = 85° , find ∠FED



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

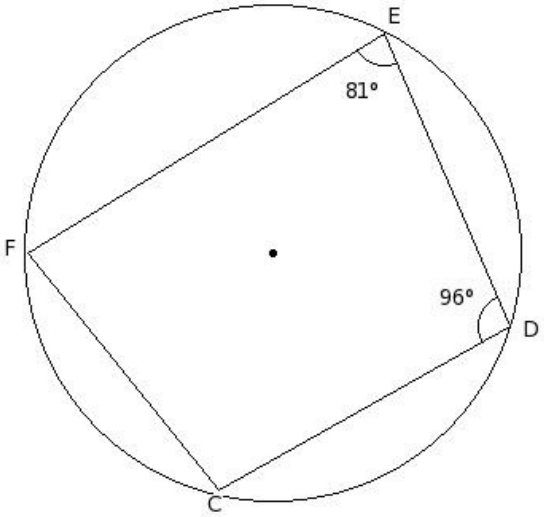
62. In the given figure, find the angles of the quadrilateral.



(i) $H=72°, I=90°, J=108°, K=90°$ (ii) $H=74°, I=90°, J=106°, K=90°$ (iii) $H=76°, I=90°, J=104°, K=90°$

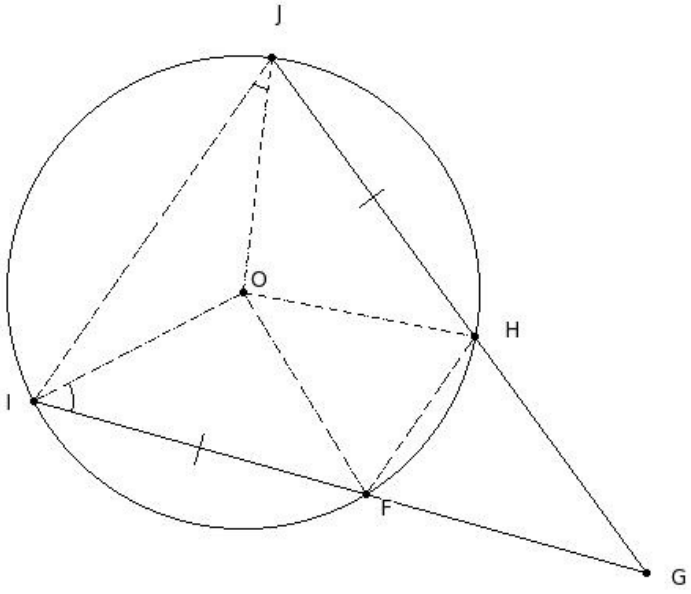
(iv) $H=75°, I=90°, J=105°, K=90°$ (v) $H=73°, I=90°, J=107°, K=90°$

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



(i) $C=101°, F=86°$ (ii) $C=98°, F=83°$ (iii) $C=100°, F=85°$ (iv) $C=99°, F=84°$ (v) $C=97°, F=82°$

64. In the given figure, $\angle OIF = 43°$ & $\angle HGF = 38°$, find $\angle OJI$



(i) 38° (ii) 33° (iii) 58° (iv) 43° (v) 28°

Assignment Key

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