EduSahara™ Assignment

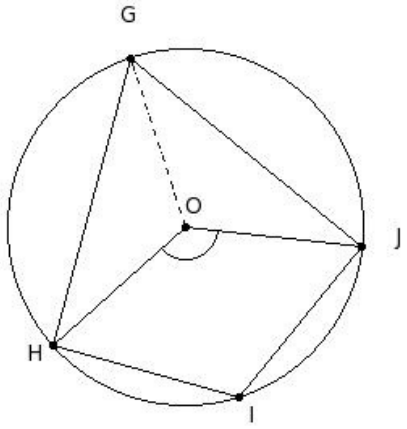
Name : Cyclic Quadrilateral

Chapter : Circles

Grade : SSC Grade IX

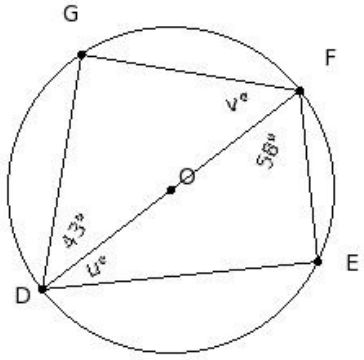
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1. O is the centre of the circle. If ∠HOJ = 132°, find ∠G



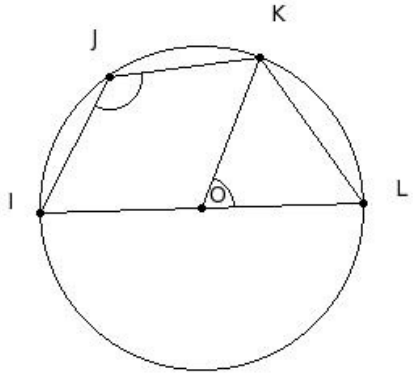
(i) 66° (ii) 81° (iii) 76° (iv) 71° (v) 96°

2. O is the centre of the circle. If ∠DFE = 58° and ∠FDG = 43°, find u°, v°



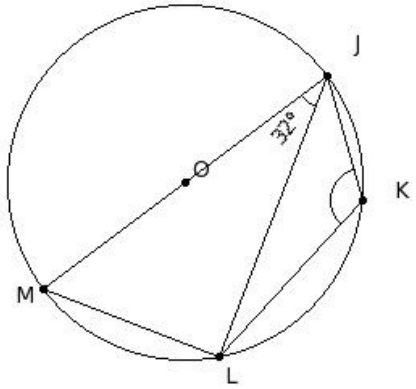
(i) 37°, 32° (ii) 47°, 32° (iii) 77°, 52° (iv) 32°, 47° (v) 57°, 42°

3. O is the centre of the circle. If ∠IJK = 123.5°, find ∠KOL



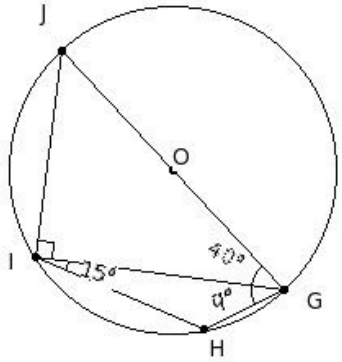
(i) 77° (ii) 97° (iii) 72° (iv) 82° (v) 67°

4. O is the centre of the circle and ∠MJL = 32°, find ∠JKL



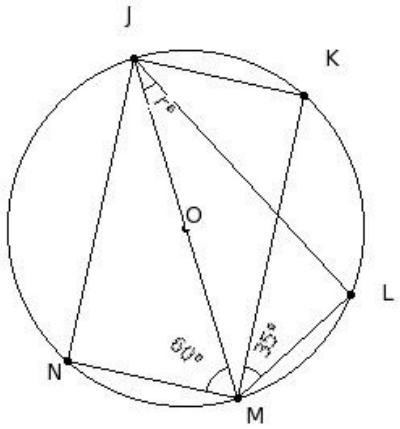
(i) 127° (ii) 132° (iii) 152° (iv) 137° (v) 122°

5. O is the centre of the circle. If ∠IGJ = 40° and ∠GIH = 15°, find ∠HGI



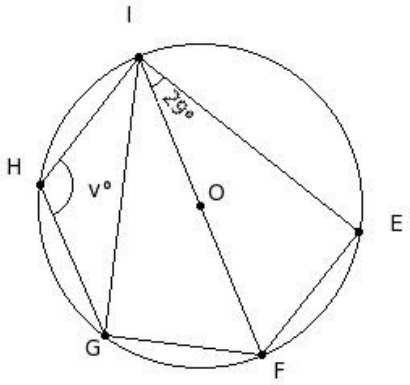
(i) 45° (ii) 40° (iii) 50° (iv) 35° (v) 65°

6. In the given figure, O is the centre of the circle and JM is a diameter. If ∠JMN = 60° and ∠KML = 35°, find ∠MJL



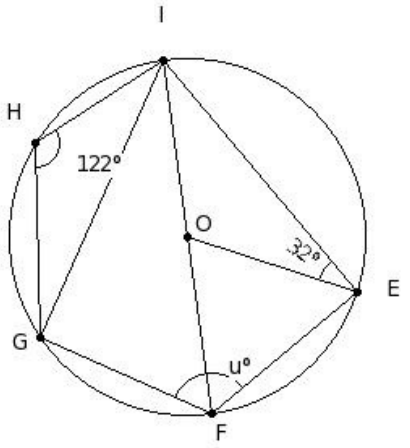
(i) 35° (ii) 30° (iii) 25° (iv) 40° (v) 55°

7. In the given figure, O is the centre of the circle and chord EF is equal to chord FG and FI is a diameter. If ∠EIF = 29°, find ∠IHG



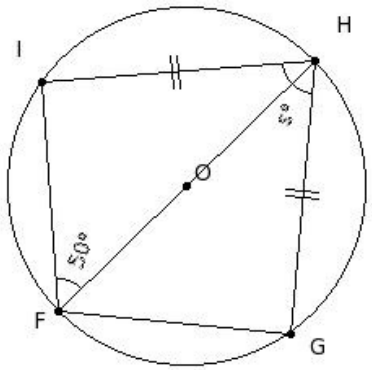
(i) 119° (ii) 124° (iii) 129° (iv) 149° (v) 134°

8. In the given figure, O is the centre of the circle and chord EF is equal to chord FG and FI is a diameter. If ∠IEO = 32° and ∠GHI = 122°, find ∠EFG



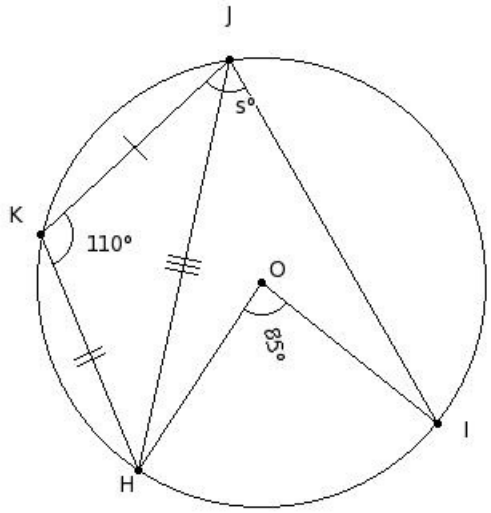
(i) 116° (ii) 126° (iii) 121° (iv) 146° (v) 131°

9. In the given figure, O is the centre of the circle , chord GH is equal to chord HI and FH is a diameter. If ∠IFH = 50° find ∠GHI



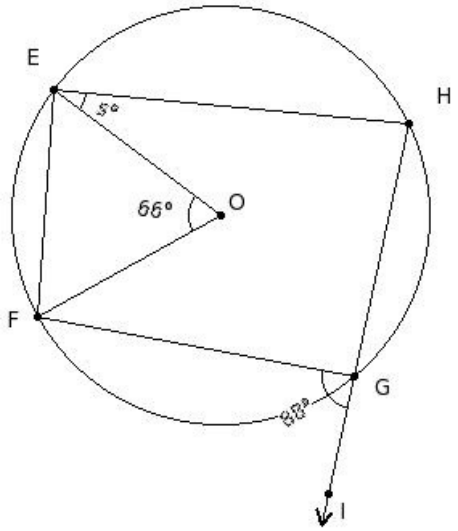
(i) 110° (ii) 80° (iii) 85° (iv) 90° (v) 95°

10. In the given figure, O is the centre of the circle , chord HK is equal to chord KJ. If ∠HOI = 85° and ∠HKJ = 110°, find ∠IJK



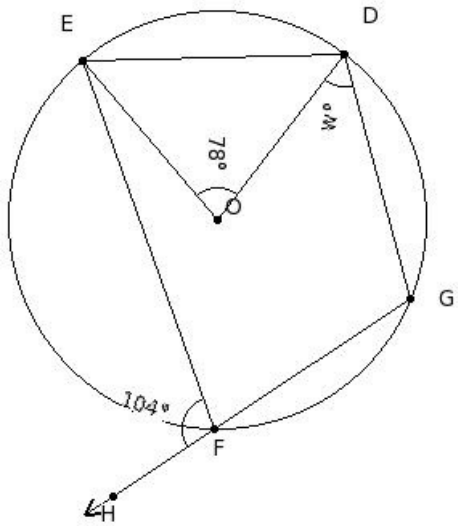
(i) 77.5° (ii) 107.5° (iii) 92.5° (iv) 87.5° (v) 82.5°

11. In the given figure, O is the centre of the circle. If ∠EOF = 66° and ∠FGI = 88°, find ∠HEO



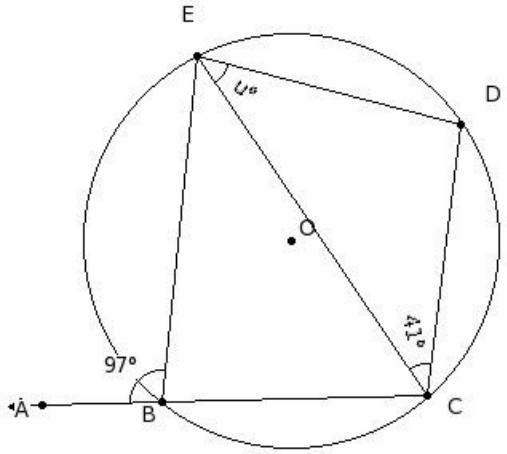
(i) 46° (ii) 36° (iii) 31° (iv) 41° (v) 61°

12. In the given figure, O is the centre of the circle. If ∠DOE = 78° and ∠EFH = 104°, find ∠GDO



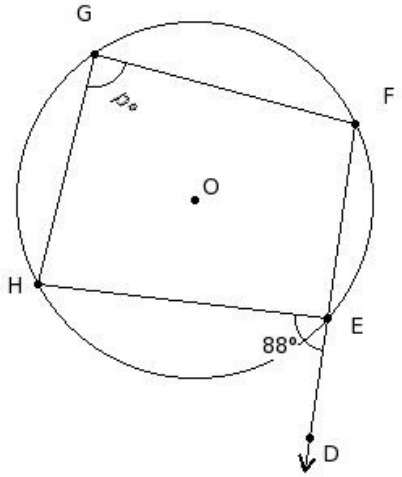
(i) 63° (ii) 53° (iii) 68° (iv) 58° (v) 83°

13. In the given figure, O is the centre of the circle. If ∠ECD = 41° and ∠ABE = 97°, find ∠CED



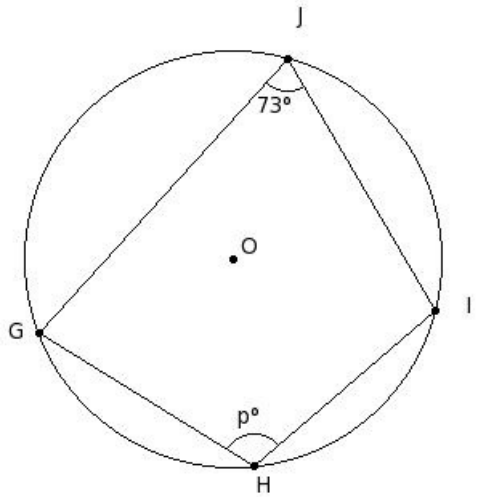
(i) 52° (ii) 57° (iii) 47° (iv) 72° (v) 42°

14. In the given figure, O is the centre of the circle. If ∠DEH = 88°, find ∠FGH



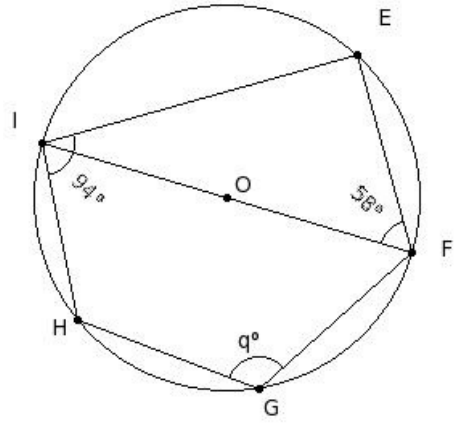
(i) 98° (ii) 88° (iii) 118° (iv) 103° (v) 93°

15. In the given figure, O is the centre of the circle. If ∠IJG = 73°, find ∠GHI



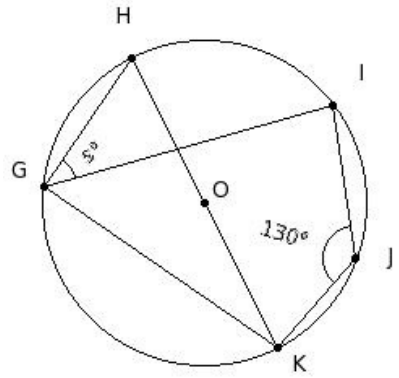
(i) 117° (ii) 112° (iii) 107° (iv) 122° (v) 137°

16. In the given figure, O is the centre of the circle and FI is a diameter. If ∠HIE = 94° and ∠EFI = 58°, find ∠FGH



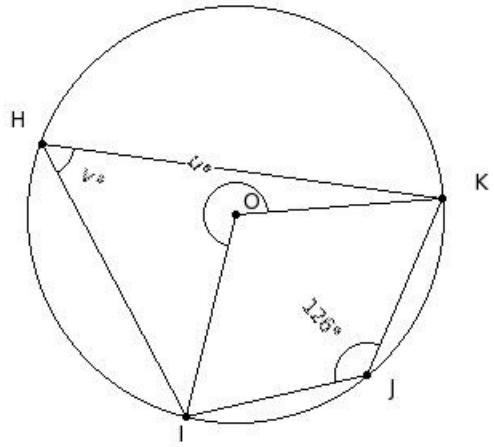
(i) 128° (ii) 123° (iii) 118° (iv) 148° (v) 133°

17. In the given figure, O is the centre of the circle and HK is a diameter. If ∠IJK = 130°, find ∠IGH



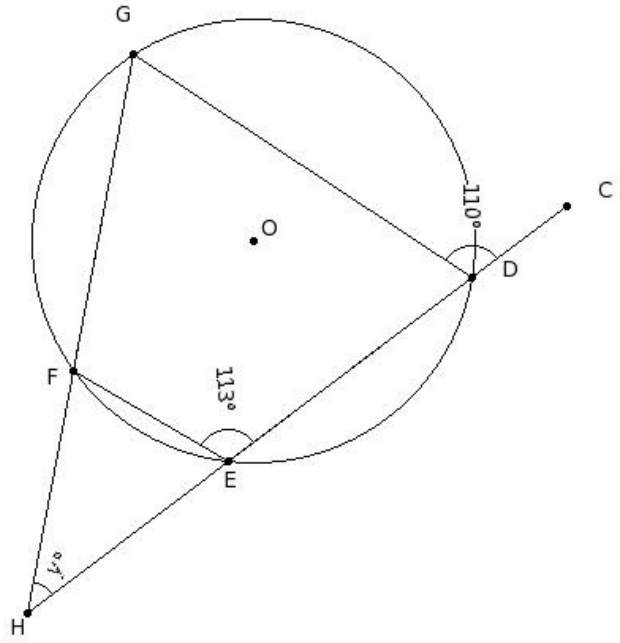
(i) 55° (ii) 45° (iii) 50° (iv) 40° (v) 70°

18. In the given figure, O is the centre of the circle. If ∠IJK = 126°, find ∠KOI + ∠IHK



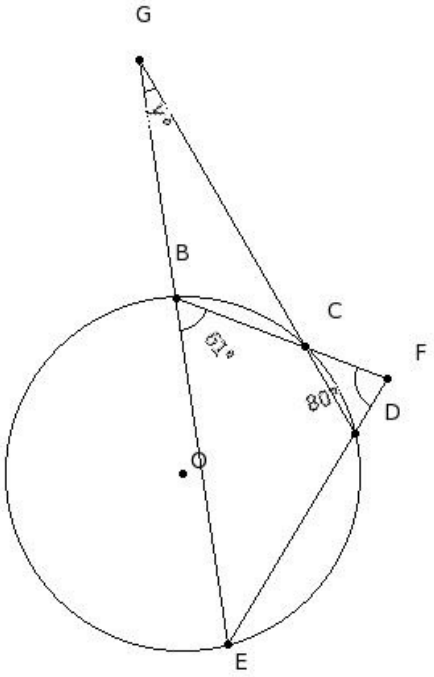
(i) 311° (ii) 321° (iii) 336° (iv) 306° (v) 316°

19. In the given figure, O is the centre of the circle. If ∠CDG = 110° and ∠DEF = 113°, find ∠EHF



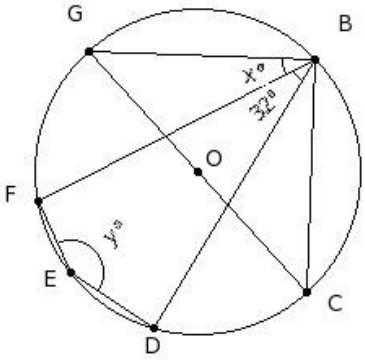
(i) 43° (ii) 73° (iii) 53° (iv) 48° (v) 58°

20. In the given figure, O is the centre of the circle . If ∠CFD = 80° and ∠CBE = 61°, find ∠BGC



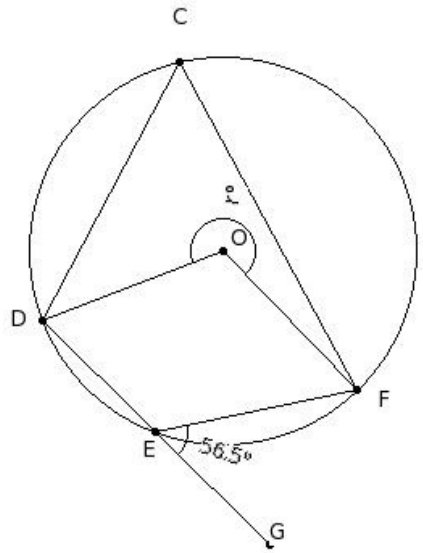
(i) 52° (ii) 32° (iii) 27° (iv) 22° (v) 37°

21. In the given figure, O is the centre and CG is a diameter of the circle and chord CD is equal to chord FG. If ∠DBF = 32°, find ∠FBG + ∠DEF



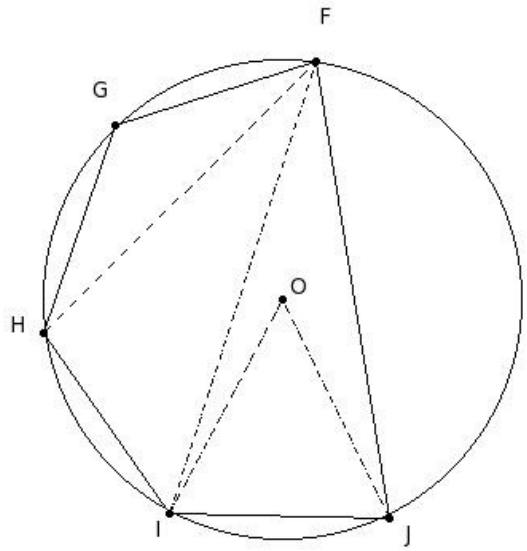
(i) 192° (ii) 177° (iii) 187° (iv) 182° (v) 207°

22. In the given figure, O is the centre of the circle. If ∠GEF = 56.5°, find reflex ∠FOD



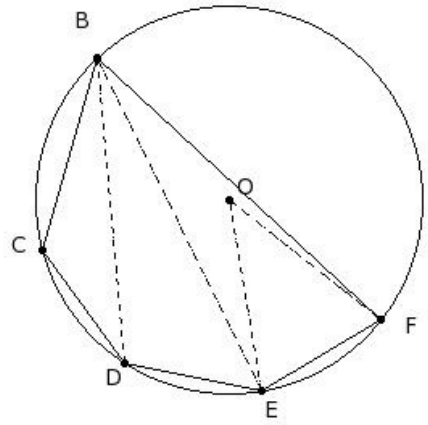
(i) 252° (ii) 247° (iii) 277° (iv) 257° (v) 262°

23. In the given figure, a pentagon is inscribed in a circle with centre O. Given GH = HI = IJ and ∠GHI = 126°. Find ∠GFH



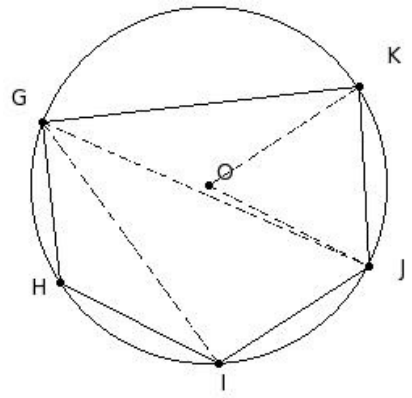
(i) 37° (ii) 32° (iii) 57° (iv) 42° (v) 27°

24. In the given figure, a pentagon is inscribed in a circle with centre O. Given CD = DE = EF and ∠CDE = 138°. Find ∠CBF



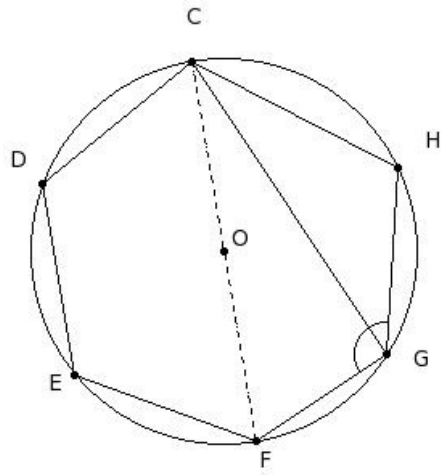
(i) 73° (ii) 78° (iii) 68° (iv) 63° (v) 93°

25. In the given figure, a pentagon is inscribed in a circle with centre O. Given HI = IJ = JK and ∠HIJ = 120°. Find ∠JOK



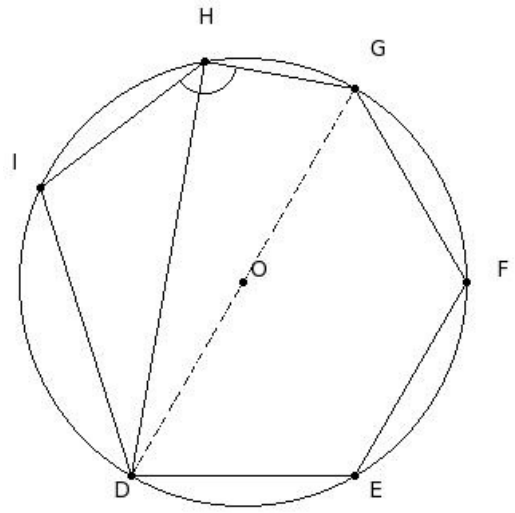
(i) 70° (ii) 90° (iii) 60° (iv) 75° (v) 65°

26. In the given figure, a hexagon is inscribed in a circle with centre O. Given CD = DE = EF and ∠FGH = 127.14°. Find ∠CGH



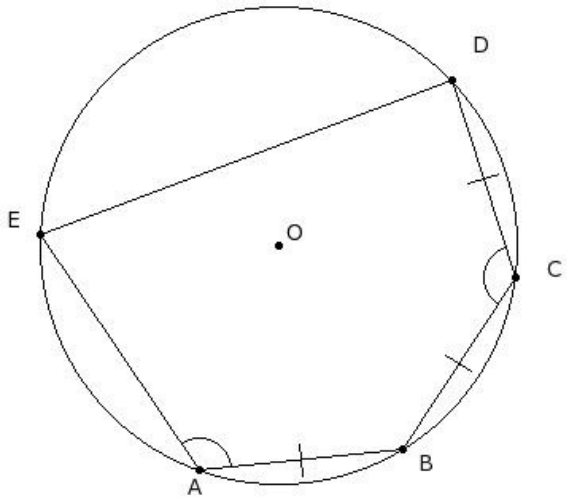
(i) 42.14° (ii) 37.14° (iii) 67.14° (iv) 52.14° (v) 47.14°

27. In the given figure, a hexagon is inscribed in a circle with centre O. Given DE = EF = FG and ∠GHI = 132.26°. Find ∠IDE



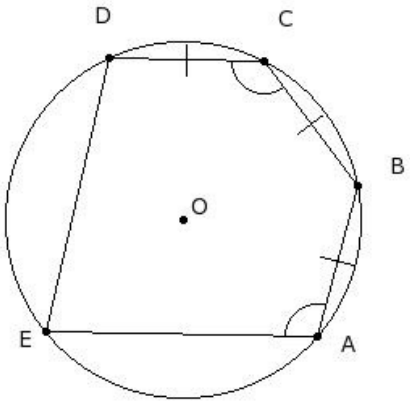
(i) 117.74° (ii) 122.74° (iii) 137.74° (iv) 112.74° (v) 107.74°

28. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 102° and ∠EAB = 118°. Find ∠ABC



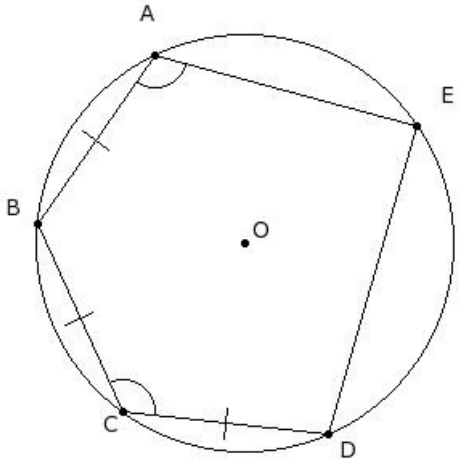
(i) 117° (ii) 112° (iii) 132° (iv) 107° (v) 102°

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



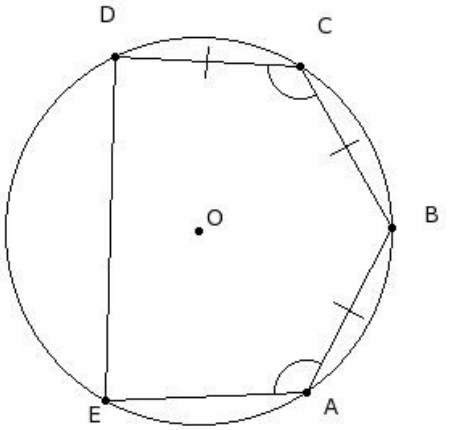
(i) 129° (ii) 124° (iii) 114° (iv) 119° (v) 144°

30. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 119° and ∠EAB = 110°. Find ∠AED



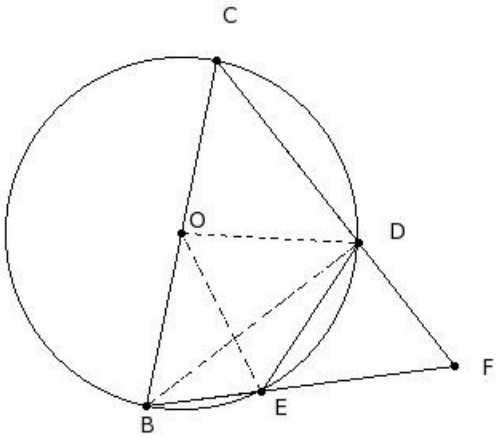
(i) 121.5° (ii) 91.5° (iii) 101.5° (iv) 106.5° (v) 96.5°

31. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 115° and ∠EAB = 120°. Find ∠EAD



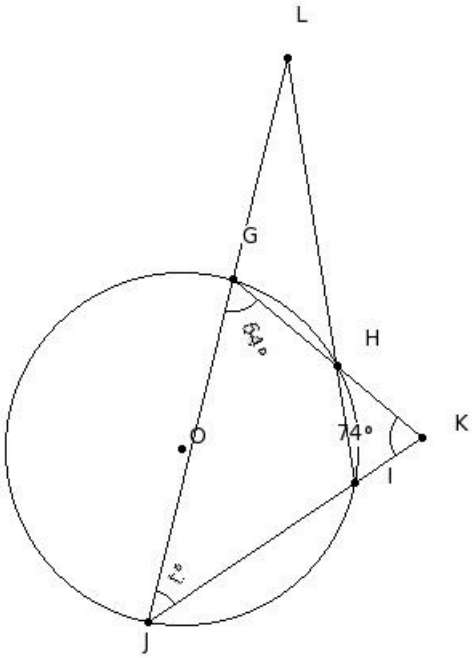
(i) 60° (ii) 85° (iii) 70° (iv) 55° (v) 65°

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

33. In the given figure, O is the centre of the circle. If ∠HKI = 74° and ∠HGJ = 64°, find ∠GJI



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

34. Which of the following statements are true?

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

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

35. Which of the following are cyclic quadrilaterals?

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

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

36. Which of the following statements are true?

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

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

37. Which of the following statements are true?

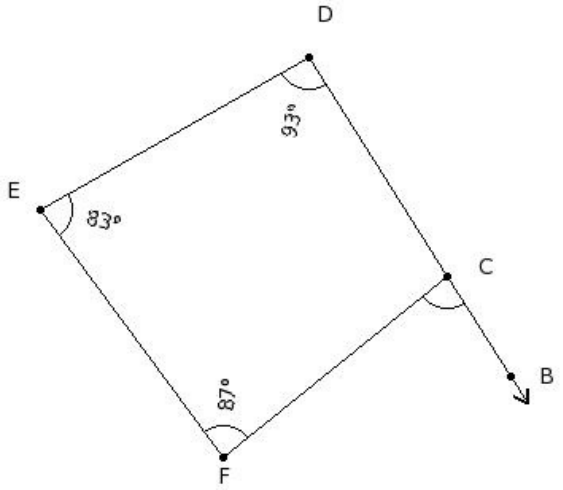
a) Angles subtended by equal length arcs in two circles are equal.
b) Angles in the opposite segments are supplementary.
c) Angles in the opposite segments are complementary.
d) Angles in the same segment are equal.

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

38. The opposite angles in a cyclic quadrilateral are

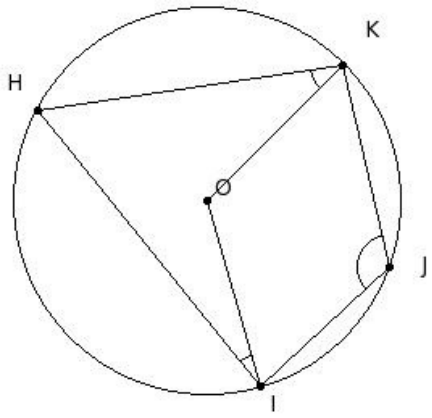
(i) supplementary (ii) complementary (iii) linear pair (iv) equal

39. In the given figure, CDEF is cyclic quadrilateral. If ∠DEF = 83°, find ∠BCF



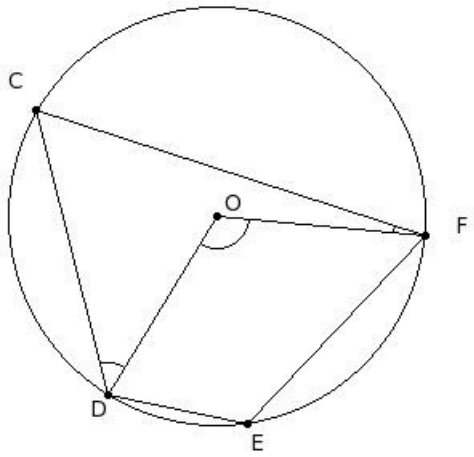
(i) 93° (ii) 113° (iii) 83° (iv) 98° (v) 88°

40. In the given figure, O is the centre of the circle. If ∠HIO = 23° and ∠OKH = 37°, find ∠IJK



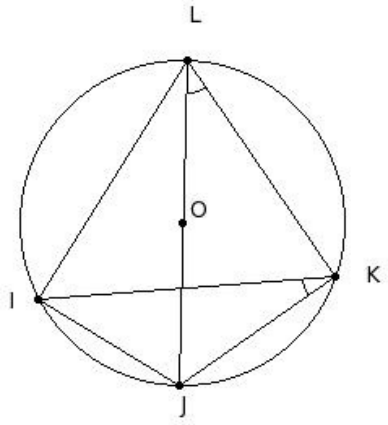
(i) 130° (ii) 120° (iii) 125° (iv) 135° (v) 150°

41. In the given figure, O is the centre of the circle. If ∠CDO = 46° and ∠OFC = 13°, find ∠DOF



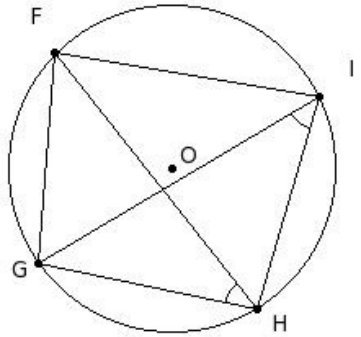
(i) 148° (ii) 133° (iii) 128° (iv) 123° (v) 118°

42. In the given figure, IJKL is a cyclic quadrilateral. If ∠IKJ = 31° and ∠KLJ = 36°, find ∠IJK



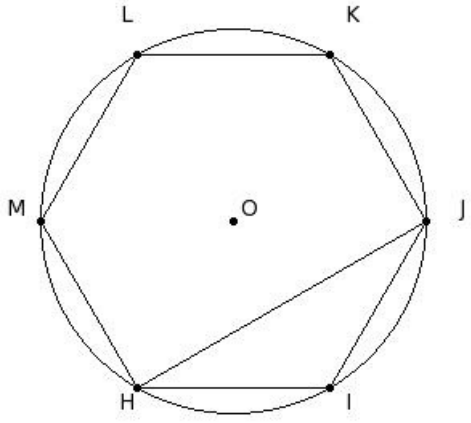
(i) 113° (ii) 143° (iii) 123° (iv) 128° (v) 118°

43. In the given figure, FGHI is a cyclic quadrilateral. If ∠FHG = 40° and ∠HIG = 43°, find ∠FIH



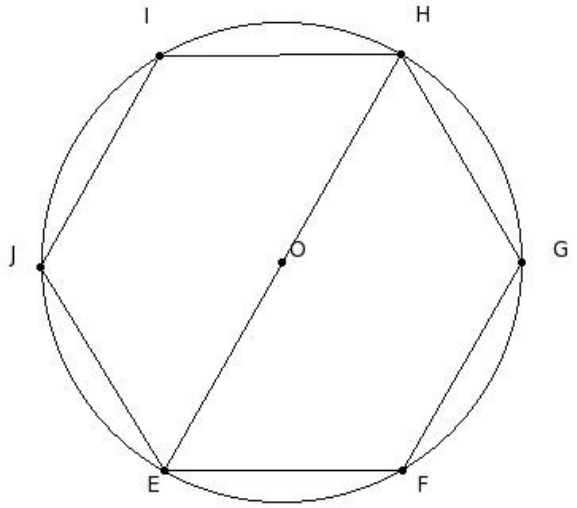
(i) 98° (ii) 113° (iii) 83° (iv) 88° (v) 93°

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



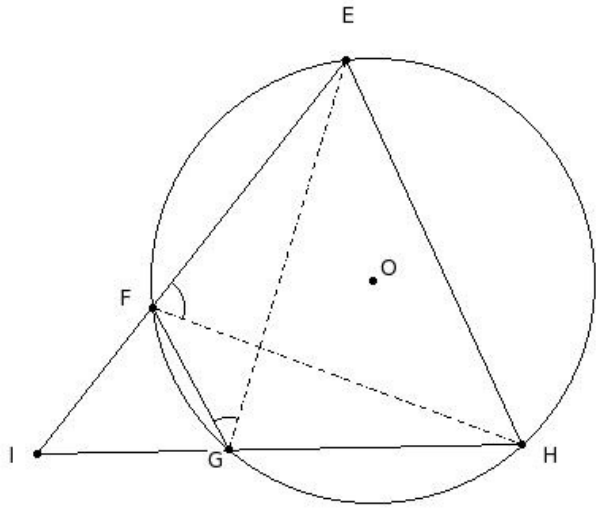
(i) 35° (ii) 40° (iii) 30° (iv) 60° (v) 45°

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



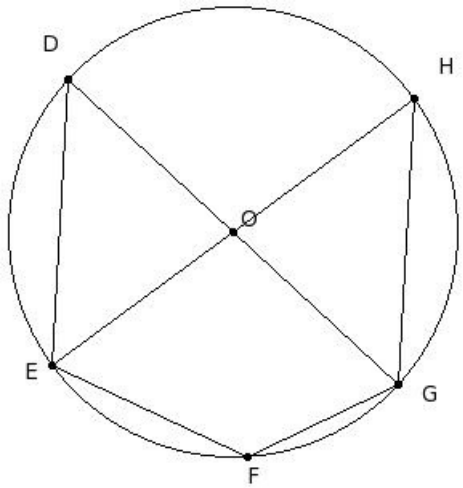
(i) 65° (ii) 75° (iii) 70° (iv) 60° (v) 90°

46. In the given figure, EFGH is a cyclic quadrilateral. If ∠EFH = 72° and ∠FGE = 45°, find ∠FGH



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

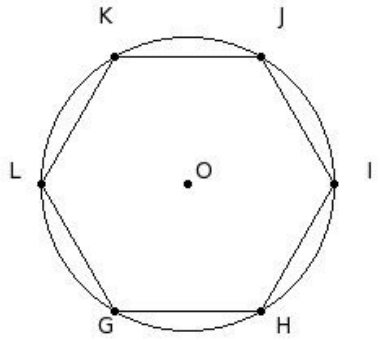
47. In the given figure, DE , EF , FG and GH are chords and DG , EH are diameters passing through the centre O. If ∠DOE = 79°. Find ∠EFG



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

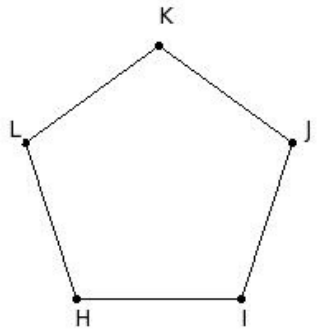
48. In the given figure, GHIJKL is a regular hexagon inscribed in a circle with centre O. Which of the following are true?

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



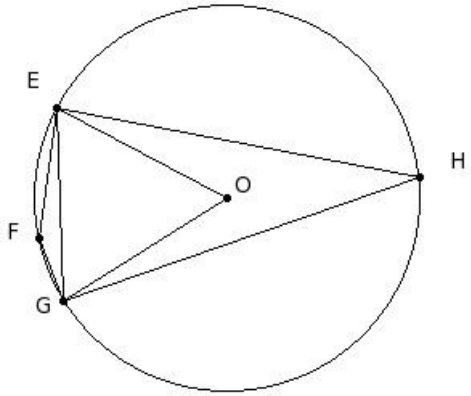
(i) {e,d,a} (ii) {e,c} (iii) {e,b} (iv) {a,b,c,d} (v) {e,a}

49. In the given figure, HIJKL is a regular pentagon . Find ∠HLJ



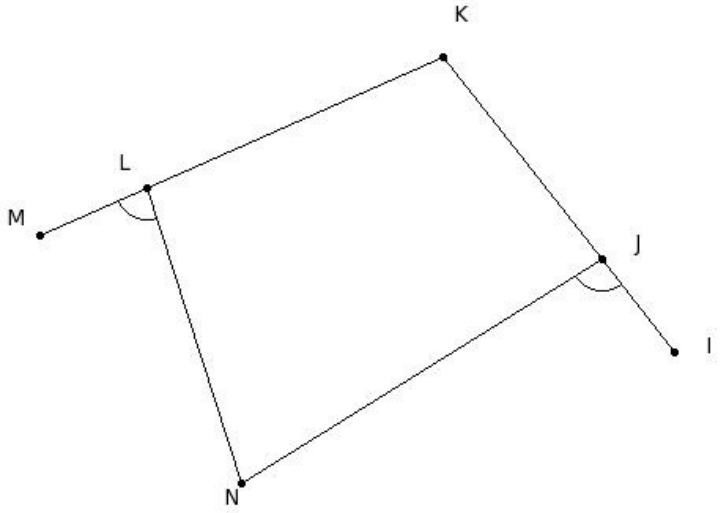
(i) 77° (ii) 87° (iii) 82° (iv) 102° (v) 72°

50. In the given figure, EG is a chord which is equal to the radius of the circle. Find ∠H and ∠F



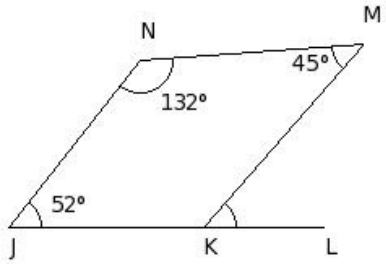
(i) 45° & 135° (ii) 40° & 140° (iii) 30° & 150° (iv) 50° & 130° (v) 60° & 120°

51. In the given figure, JKLN is a cyclic quadrilateral where KL and KJ are produced to M and I respectively. If ∠IJN = 96°, find ∠MLN



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

52. In the given figure, ∠J = 52° , ∠M = 45° and ∠N = 132°, find ∠MKL



(i) 79° (ii) 59° (iii) 54° (iv) 49° (v) 64°

53. Which of the following statements are true?

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

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

54. Which of the following statements are true?

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

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

55. Which of the following are not cyclic quadrilaterals?

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

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

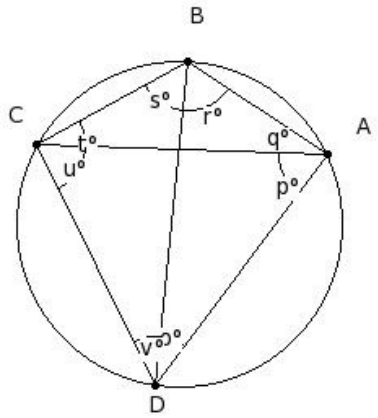
56. If JKLM is a cyclic quadrilateral and $\angle J - \angle L = 42°$, then $\angle L$

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

57. If JKLM is a cyclic parallelogram, then $\angle M$

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

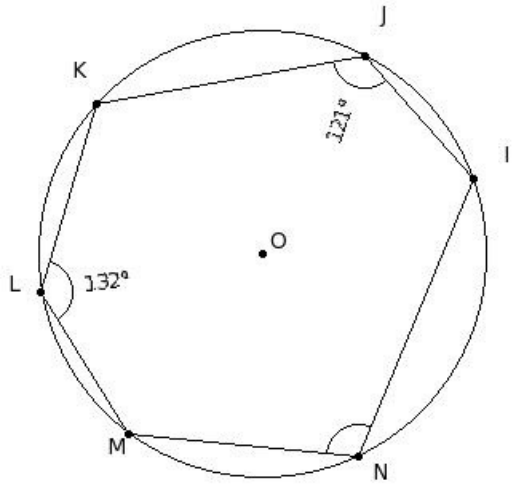
58. In the given figure, which of the following angle pairs are equal?



(i) {(v,o),(u,r),(t,p),(s,q)} (ii) {(p,r),(v,q),(o,u),(s,t)} (iii) {(o,t),(p,s),(q,v),(r,u)} (iv) {(q,u),(o,t),(s,r),(v,p)}

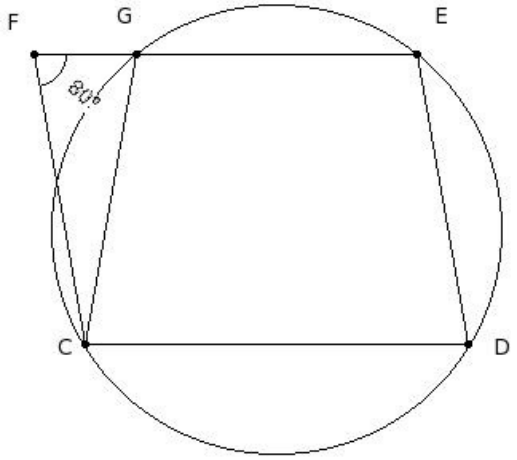
(v) {(s,r),(t,p),(q,v),(u,o)}

59. IJKLMN is a hexagon inscribed in a circle. Given $\angle IJK = 121°$ & $\angle KLM = 132°$, find $\angle MNI$



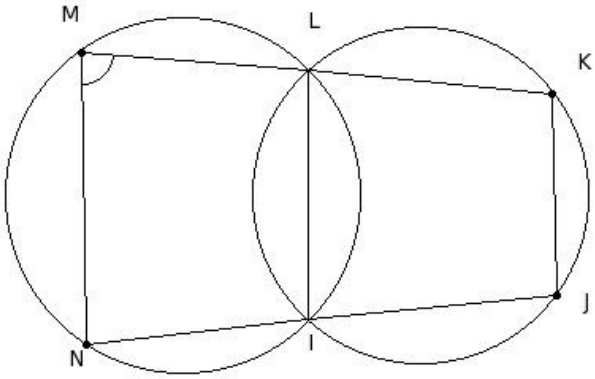
(i) 117° (ii) 107° (iii) 122° (iv) 112° (v) 137°

60. In the given figure, CDEF is a parallelogram. The circumcircle of $\triangle CDE$ cuts EF at G. Given $\angle CFG = 80°$, find $\angle FCG$



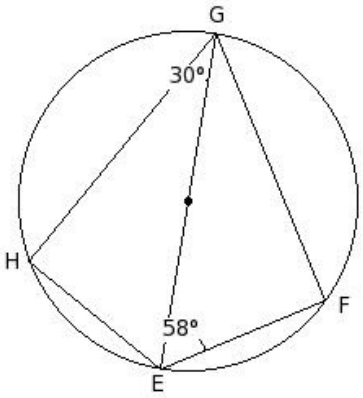
(i) 25° (ii) 50° (iii) 30° (iv) 35° (v) 20°

61. In the given figure, MK and NJ are two lines passing through the points of intersection of the two circles at L and I. If ∠NML = 85° , find ∠LKJ



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

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

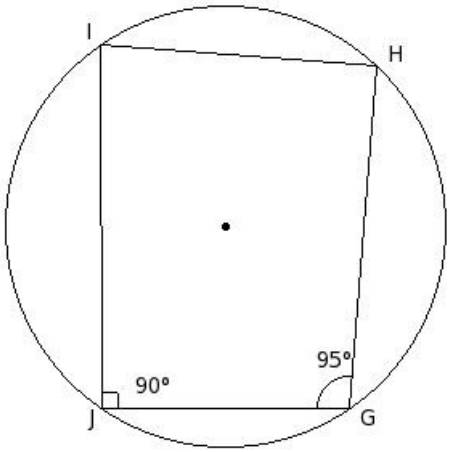


(i) E = 118°, F = 90°, G = 62°, H = 90° (ii) E = 119°, F = 90°, G = 61°, H = 90°

(iii) E = 116°, F = 90°, G = 64°, H = 90° (iv) E = 120°, F = 90°, G = 60°, H = 90°

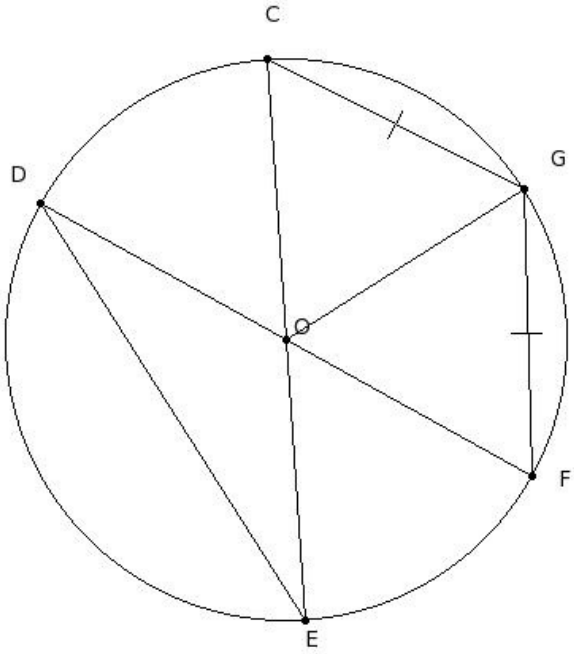
(v) E = 117°, F = 90°, G = 63°, H = 90°

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



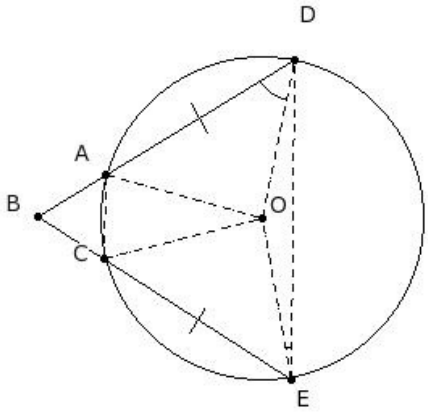
(i) H = 92°, I = 87° (ii) H = 88°, I = 83° (iii) H = 91°, I = 86° (iv) H = 89°, I = 84° (v) H = 90°, I = 85°

64. In the given figure, FG & GC are equal length chords, CE and DF are diameters. Given ∠OFG = 59° find, ∠DEO



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

65. In the given figure, ∠ODA = 47° & ∠CBA = 64°, find ∠OED



(i) 11° (ii) 41° (iii) 21° (iv) 16° (v) 26°

Assignment Key

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

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