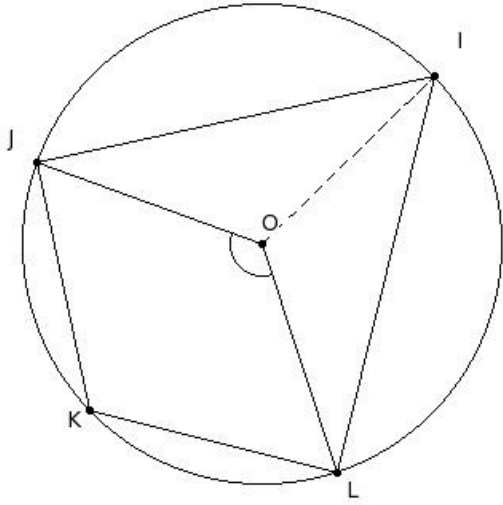


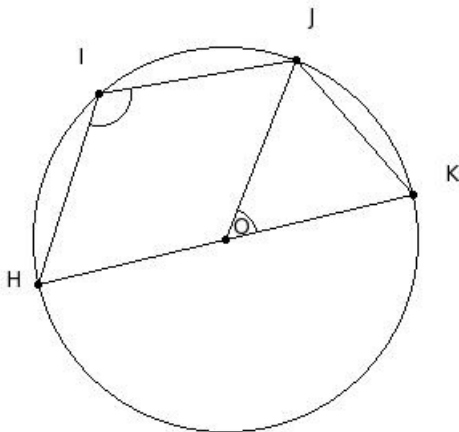


1. O is the centre of the circle. If  $\angle JOL = 128^\circ$ , find  $\angle I$



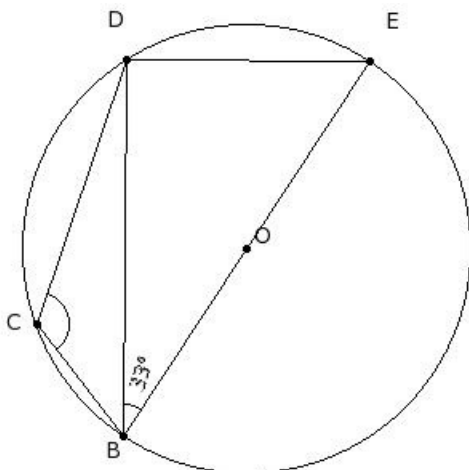
- (i)  $79^\circ$  (ii)  $74^\circ$  (iii)  $64^\circ$  (iv)  $94^\circ$  (v)  $69^\circ$

2. O is the centre of the circle. If  $\angle HIJ = 117.5^\circ$ , find  $\angle JOK$



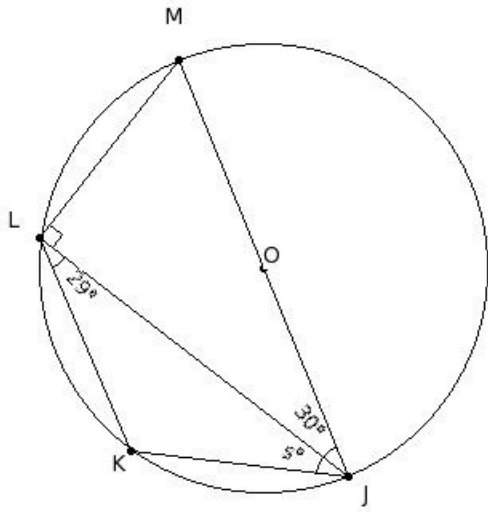
- (i)  $85^\circ$  (ii)  $60^\circ$  (iii)  $65^\circ$  (iv)  $70^\circ$  (v)  $55^\circ$

3. O is the centre of the circle and  $\angle EBD = 33^\circ$ , find  $\angle BCD$



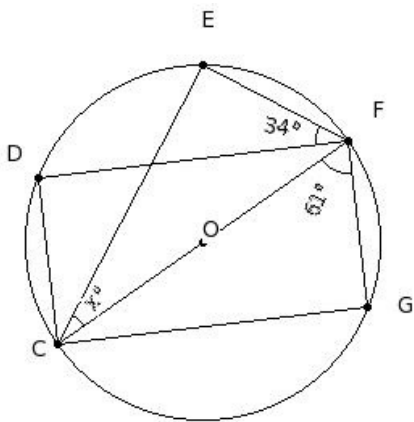
- (i)  $138^\circ$  (ii)  $123^\circ$  (iii)  $153^\circ$  (iv)  $128^\circ$  (v)  $133^\circ$

4. O is the centre of the circle. If  $\angle LJM = 30^\circ$  and  $\angle JLK = 29^\circ$ , find  $\angle KJL$



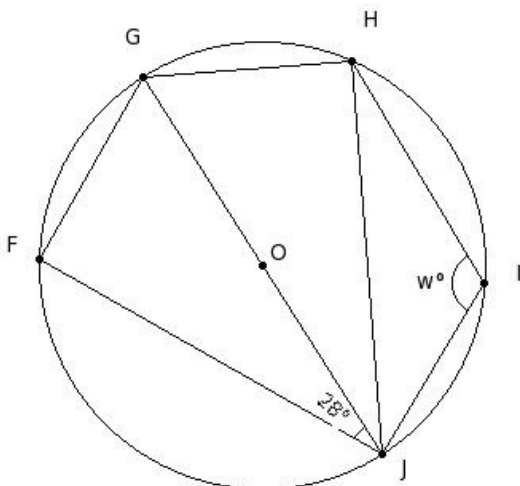
- (i)  $61^\circ$  (ii)  $31^\circ$  (iii)  $41^\circ$  (iv)  $46^\circ$  (v)  $36^\circ$

5. In the given figure, O is the centre of the circle and CF is a diameter. If  $\angle CFG = 61^\circ$  and  $\angle DFE = 34^\circ$ , find  $\angle FCE$



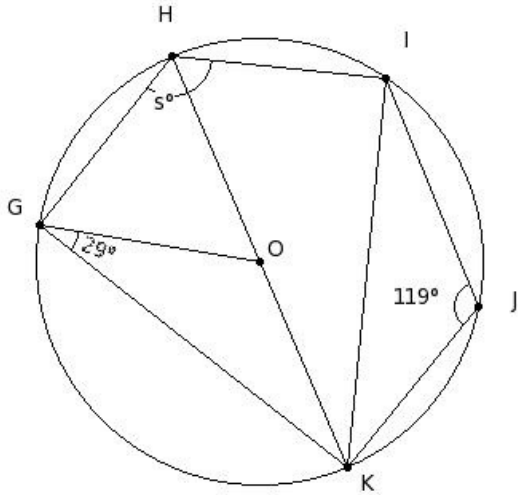
- (i)  $32^\circ$  (ii)  $42^\circ$  (iii)  $27^\circ$  (iv)  $57^\circ$  (v)  $37^\circ$

6. In the given figure, O is the centre of the circle and chord FG is equal to chord GH and GJ is a diameter. If  $\angle FJG = 28^\circ$ , find  $\angle JIH$



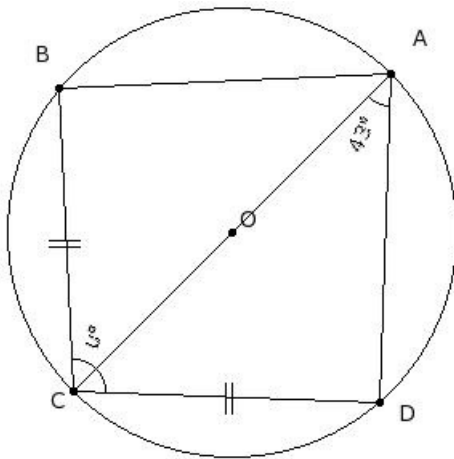
- (i)  $133^\circ$  (ii)  $123^\circ$  (iii)  $118^\circ$  (iv)  $128^\circ$  (v)  $148^\circ$

7. In the given figure, O is the centre of the circle and chord GH is equal to chord HI and HK is a diameter. If  $\angle KGO = 29^\circ$  and  $\angle IJK = 119^\circ$ , find  $\angle GHI$



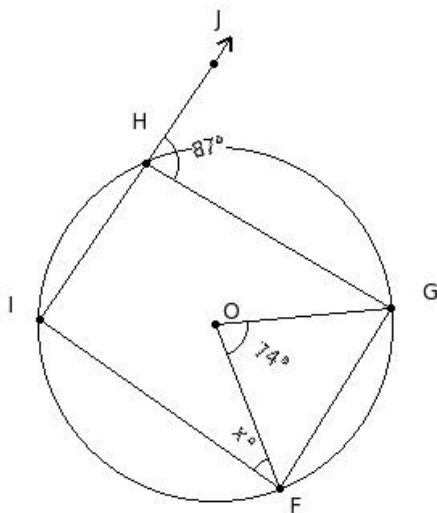
- (i)  $122^\circ$  (ii)  $132^\circ$  (iii)  $127^\circ$  (iv)  $152^\circ$  (v)  $137^\circ$

8. In the given figure, O is the centre of the circle, chord BC is equal to chord CD and AC is a diameter. If  $\angle DAC = 43^\circ$  find  $\angle BCD$



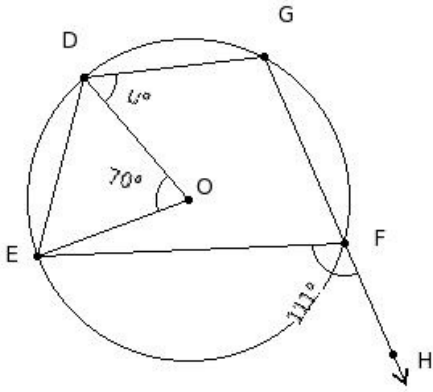
- (i)  $124^\circ$  (ii)  $104^\circ$  (iii)  $109^\circ$  (iv)  $94^\circ$  (v)  $99^\circ$

9. In the given figure, O is the centre of the circle. If  $\angle FOG = 74^\circ$  and  $\angle GHJ = 87^\circ$ , find  $\angle IFO$



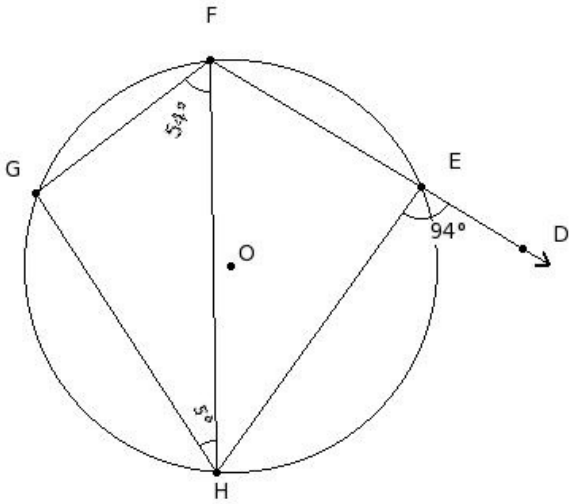
- (i)  $34^\circ$  (ii)  $49^\circ$  (iii)  $39^\circ$  (iv)  $64^\circ$  (v)  $44^\circ$

10. In the given figure, O is the centre of the circle. If  $\angle DOE = 70^\circ$  and  $\angle EFH = 111^\circ$ , find  $\angle GDO$



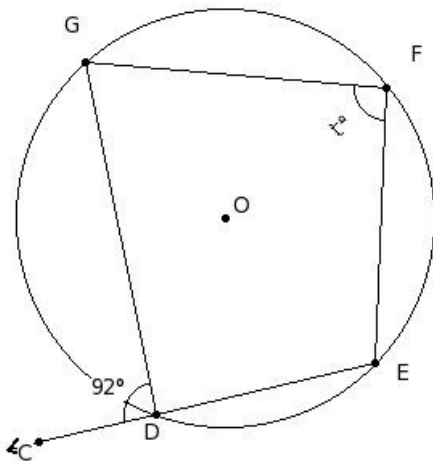
- (i)  $61^\circ$  (ii)  $86^\circ$  (iii)  $56^\circ$  (iv)  $71^\circ$  (v)  $66^\circ$

11. In the given figure, O is the centre of the circle. If  $\angle HFG = 54^\circ$  and  $\angle DEH = 94^\circ$ , find  $\angle FHG$



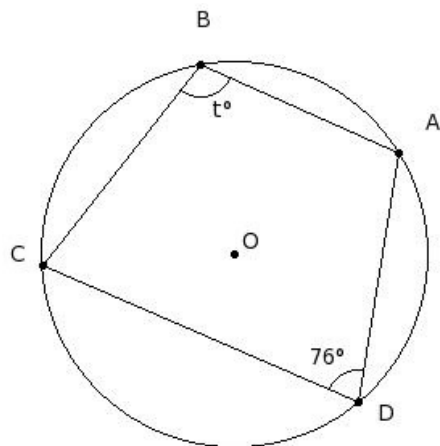
- (i)  $47^\circ$  (ii)  $37^\circ$  (iii)  $62^\circ$  (iv)  $42^\circ$  (v)  $32^\circ$

12. In the given figure, O is the centre of the circle. If  $\angle CDG = 92^\circ$ , find  $\angle EFG$



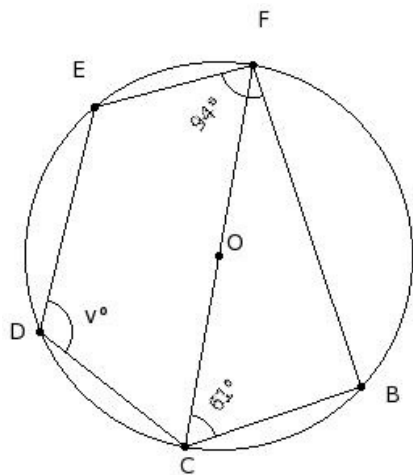
- (i)  $97^\circ$  (ii)  $92^\circ$  (iii)  $122^\circ$  (iv)  $102^\circ$  (v)  $107^\circ$

13. In the given figure, O is the centre of the circle. If  $\angle CDA = 76^\circ$ , find  $\angle ABC$



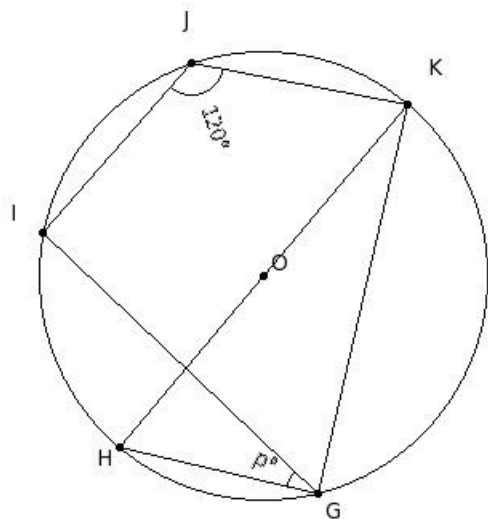
- (i)  $109^\circ$  (ii)  $134^\circ$  (iii)  $119^\circ$  (iv)  $104^\circ$  (v)  $114^\circ$

14. In the given figure, O is the centre of the circle and CF is a diameter. If  $\angle EFB = 94^\circ$  and  $\angle BCF = 61^\circ$ , find  $\angle CDE$



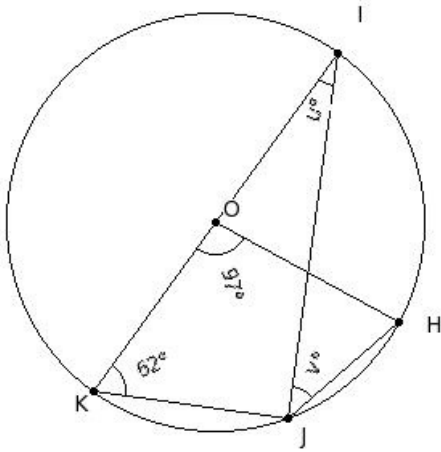
- (i)  $115^\circ$  (ii)  $145^\circ$  (iii)  $125^\circ$  (iv)  $120^\circ$  (v)  $130^\circ$

15. In the given figure, O is the centre of the circle and HK is a diameter. If  $\angle IJK = 120^\circ$ , find  $\angle IGH$



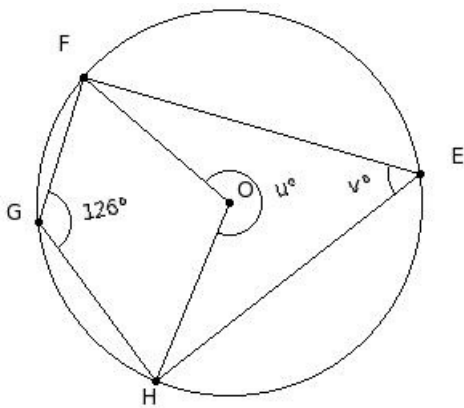
- (i)  $45^\circ$  (ii)  $60^\circ$  (iii)  $30^\circ$  (iv)  $40^\circ$  (v)  $35^\circ$

16. In the given figure, O is the centre of the circle and IK is a diameter. If  $\angle HOK = 97^\circ$  and  $\angle OKJ = 62^\circ$ , find  $\angle IJH + \angle JIK$



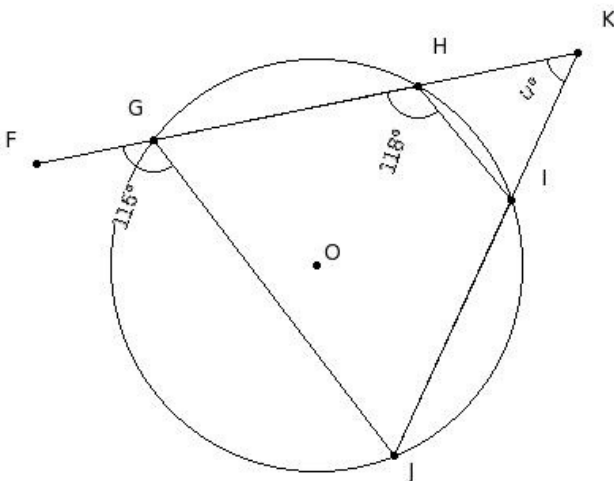
- (i)  $79.5^\circ$  (ii)  $99.5^\circ$  (iii)  $84.5^\circ$  (iv)  $74.5^\circ$  (v)  $69.5^\circ$

17. In the given figure, O is the centre of the circle. If  $\angle FGH = 126^\circ$ , find  $\angle HOF + \angle FEH$



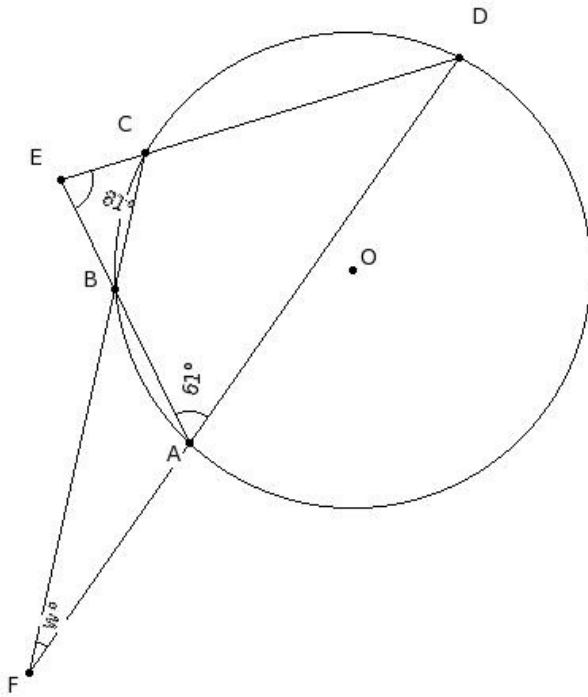
- (i)  $336^\circ$  (ii)  $321^\circ$  (iii)  $311^\circ$  (iv)  $306^\circ$  (v)  $316^\circ$

18. In the given figure, O is the centre of the circle. If  $\angle FGJ = 116^\circ$  and  $\angle GHI = 118^\circ$ , find  $\angle HKI$



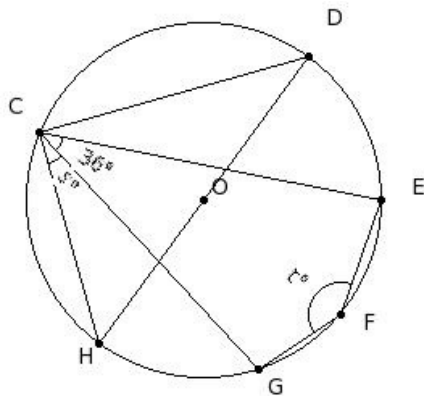
- (i)  $69^\circ$  (ii)  $84^\circ$  (iii)  $64^\circ$  (iv)  $59^\circ$  (v)  $54^\circ$

19. In the given figure, O is the centre of the circle. If  $\angle BEC = 81^\circ$  and  $\angle BAD = 61^\circ$ , find  $\angle AFB$



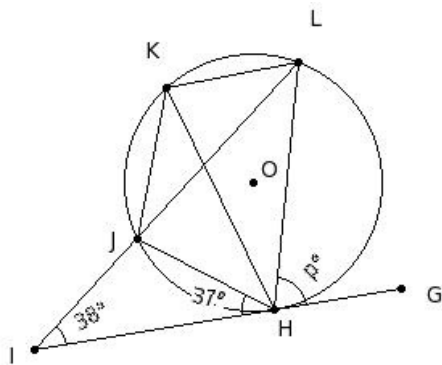
- (i)  $38^\circ$  (ii)  $33^\circ$  (iii)  $23^\circ$  (iv)  $53^\circ$  (v)  $28^\circ$

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  $\angle ECG = 36^\circ$ , find  $\angle GCH + \angle EFG$



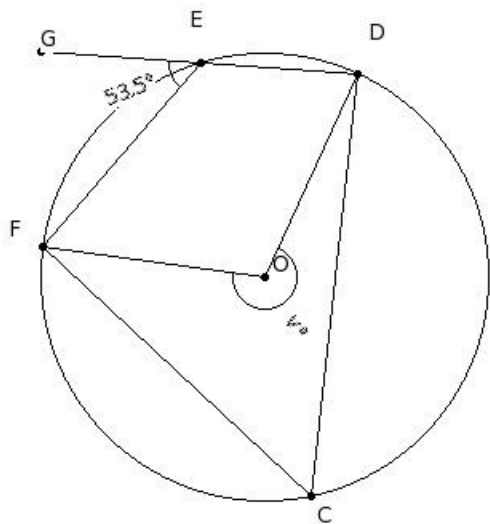
- (i)  $181^\circ$  (ii)  $186^\circ$  (iii)  $171^\circ$  (iv)  $176^\circ$  (v)  $201^\circ$

21. In the given figure, O is the centre of the circle and GI is the tangent at H. If  $\angle HIJ = 38^\circ$ ,  $\angle IHJ = 37^\circ$ , find  $\angle LHG$



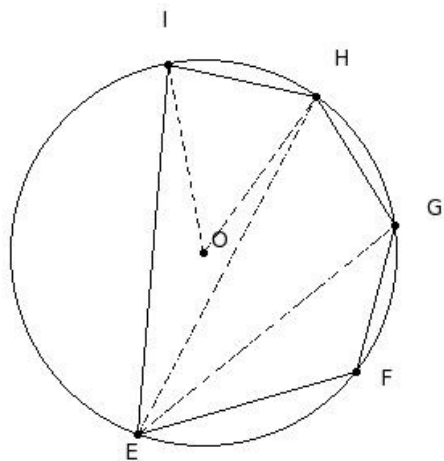
- (i)  $75^\circ$  (ii)  $80^\circ$  (iii)  $105^\circ$  (iv)  $85^\circ$  (v)  $90^\circ$

22. In the given figure, O is the centre of the circle. If  $\angle GEF = 53.5^\circ$ , find reflex  $\angle FOD$



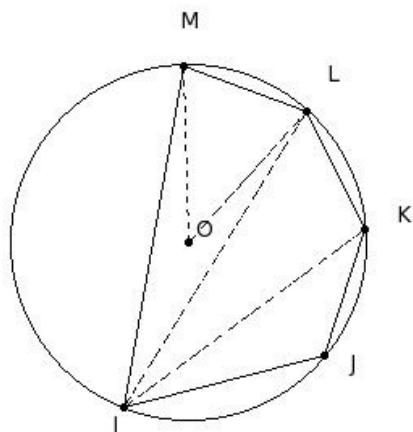
- (i)  $268^\circ$  (ii)  $253^\circ$  (iii)  $283^\circ$  (iv)  $258^\circ$  (v)  $263^\circ$

23. In the given figure, a pentagon is inscribed in a circle with centre O. Given  $FG = GH = HI$  and  $\angle FGH = 134^\circ$ . Find  $\angle FEG$



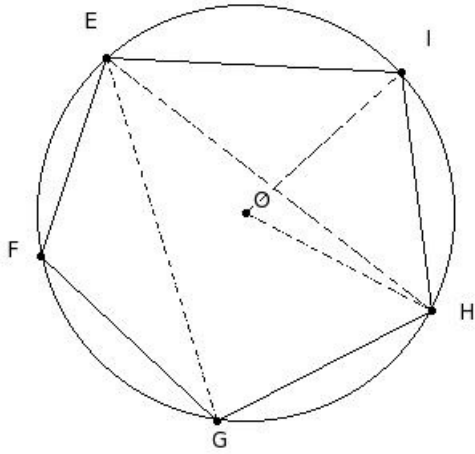
- (i)  $38^\circ$  (ii)  $53^\circ$  (iii)  $23^\circ$  (iv)  $28^\circ$  (v)  $33^\circ$

24. In the given figure, a pentagon is inscribed in a circle with centre O. Given  $JK = KL = LM$  and  $\angle JKL = 136^\circ$ . Find  $\angle JIM$



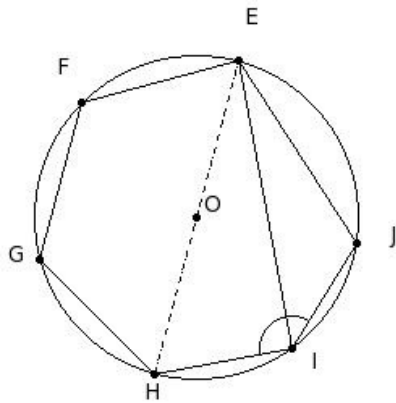
- (i)  $96^\circ$  (ii)  $81^\circ$  (iii)  $76^\circ$  (iv)  $71^\circ$  (v)  $66^\circ$

25. In the given figure, a pentagon is inscribed in a circle with centre O. Given  $FG = GH = HI$  and  $\angle FGH = 110^\circ$ . Find  $\angle HOI$



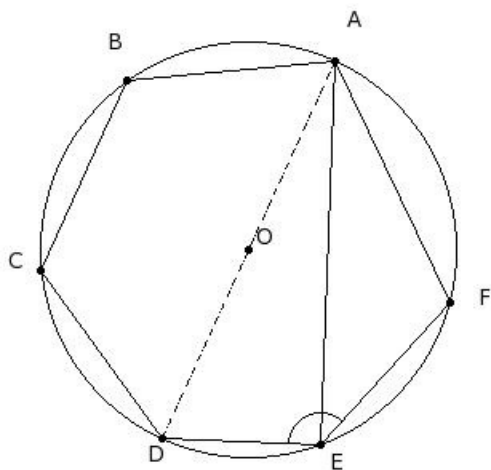
- (i)  $75^\circ$  (ii)  $100^\circ$  (iii)  $85^\circ$  (iv)  $70^\circ$  (v)  $80^\circ$

26. In the given figure, a hexagon is inscribed in a circle with centre O. Given  $EF = FG = GH$  and  $\angle HIJ = 132.27^\circ$ . Find  $\angle EIJ$



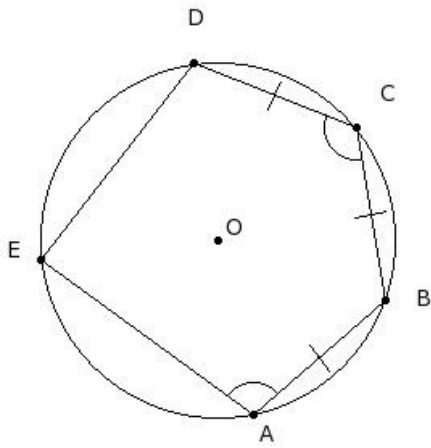
- (i)  $47.27^\circ$  (ii)  $52.27^\circ$  (iii)  $42.27^\circ$  (iv)  $57.27^\circ$  (v)  $72.27^\circ$

27. In the given figure, a hexagon is inscribed in a circle with centre O. Given  $AB = BC = CD$  and  $\angle DEF = 129.99^\circ$ . Find  $\angle FAB$



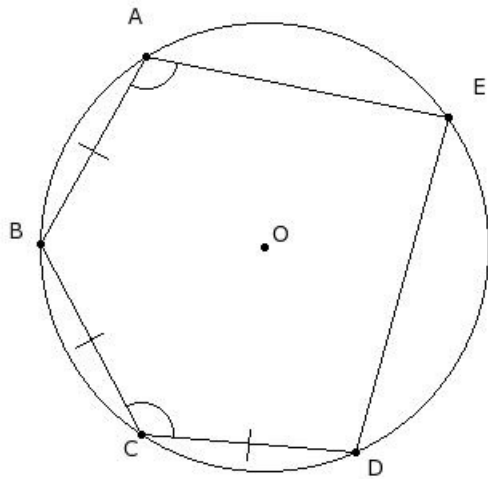
- (i)  $140.01^\circ$  (ii)  $110.01^\circ$  (iii)  $125.01^\circ$  (iv)  $120.01^\circ$  (v)  $115.01^\circ$

28. In the given figure, a pentagon is inscribed in a circle with centre O. Given  $AB = BC = CD$ ,  $\angle BCD = 118^\circ$  and  $\angle EAB = 103^\circ$ . Find  $\angle ABC$



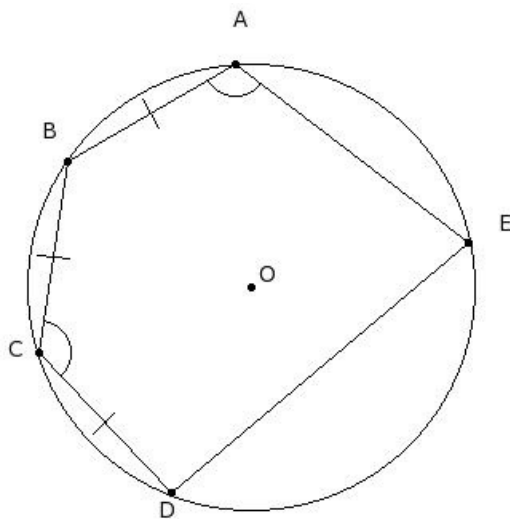
- (i)  $118^\circ$  (ii)  $123^\circ$  (iii)  $148^\circ$  (iv)  $133^\circ$  (v)  $128^\circ$

29. In the given figure, a pentagon is inscribed in a circle with centre O. Given  $AB = BC = CD$ ,  $\angle BCD = 115^\circ$  and  $\angle EAB = 108^\circ$ . Find  $\angle CDE$



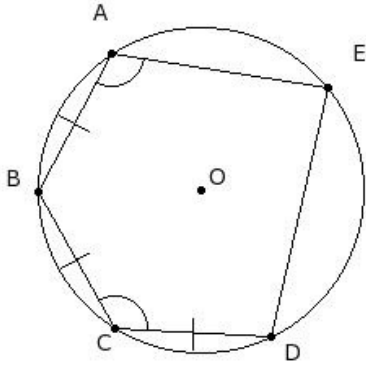
- (i)  $119.5^\circ$  (ii)  $109.5^\circ$  (iii)  $114.5^\circ$  (iv)  $134.5^\circ$  (v)  $104.5^\circ$

30. In the given figure, a pentagon is inscribed in a circle with centre O. Given  $AB = BC = CD$ ,  $\angle BCD = 103^\circ$  and  $\angle EAB = 113^\circ$ . Find  $\angle AED$



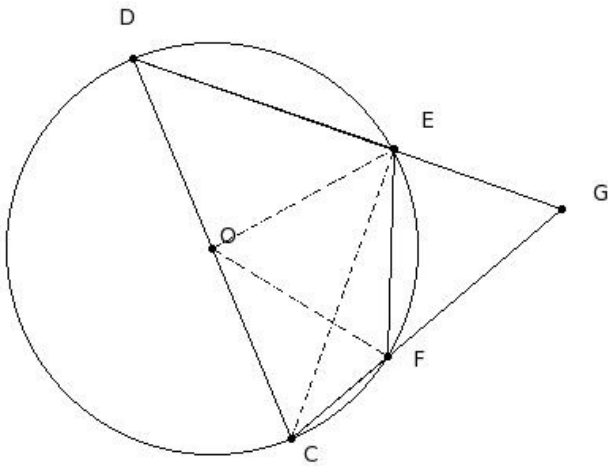
- (i)  $145.5^\circ$  (ii)  $130.5^\circ$  (iii)  $125.5^\circ$  (iv)  $120.5^\circ$  (v)  $115.5^\circ$

31. In the given figure, a pentagon is inscribed in a circle with centre O. Given  $AB = BC = CD$ ,  $\angle BCD = 114^\circ$  and  $\angle EAB = 109^\circ$ . Find  $\angle EAD$



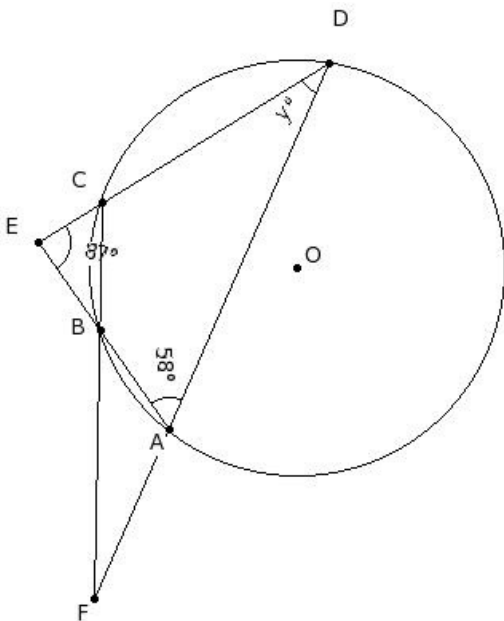
- (i)  $48^\circ$  (ii)  $58^\circ$  (iii)  $53^\circ$  (iv)  $73^\circ$  (v)  $43^\circ$

32. In the given figure, O is the centre of the circle. CD is a diameter of the circle and EF is equal to radius. Find  $\angle CGD$



- (i)  $70^\circ$  (ii)  $65^\circ$  (iii)  $60^\circ$  (iv)  $75^\circ$  (v)  $90^\circ$

33. In the given figure, O is the centre of the circle. If  $\angle BEC = 87^\circ$  and  $\angle BAD = 58^\circ$ , find  $\angle ADC$



- (i)  $45^\circ$  (ii)  $40^\circ$  (iii)  $35^\circ$  (iv)  $50^\circ$  (v)  $65^\circ$

34. Which of the following statements are true?

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

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

35. Which of the following are cyclic quadrilaterals?

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

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

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, it must be a kite.
- c) It is always possible to inscribe a circle in a regular polygon.
- d) If a circle can be inscribed in a quadrilateral, then it must be a square.
- 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) {b,e} (ii) {b,e,c} (iii) {d,a,c} (iv) {a,c} (v) {c,e}

37. Which of the following statements are true?

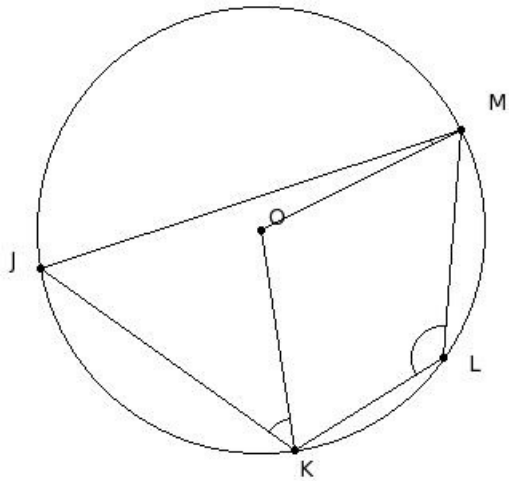
- a) Angles in the opposite segments are complementary.
- b) Angles in the opposite segments are supplementary.
- c) Angles subtended by equal length arcs in two circles are equal.
- d) Angles in the same segment are equal.

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

38. The opposite angles in a cyclic quadrilateral are

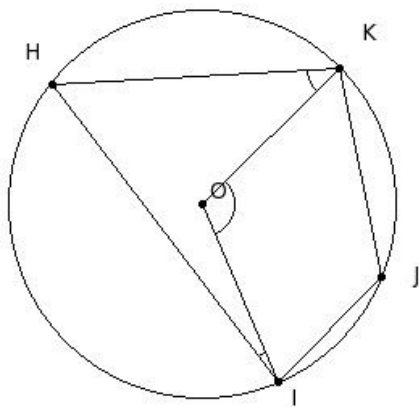
(i) equal (ii) complementary (iii) supplementary (iv) linear pair

39. In the given figure, O is the centre of the circle. If  $\angle JKO = 46^\circ$  and  $\angle OMJ = 8^\circ$ , find  $\angle KLM$



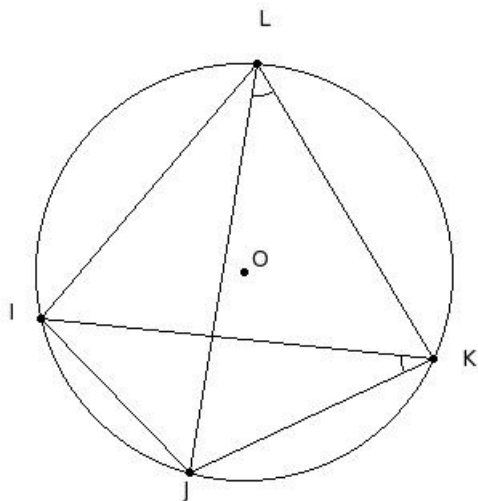
- (i)  $131^\circ$  (ii)  $156^\circ$  (iii)  $126^\circ$  (iv)  $136^\circ$  (v)  $141^\circ$

40. In the given figure, O is the centre of the circle. If  $\angle HIO = 14^\circ$  and  $\angle OKH = 41^\circ$ , find  $\angle IOK$



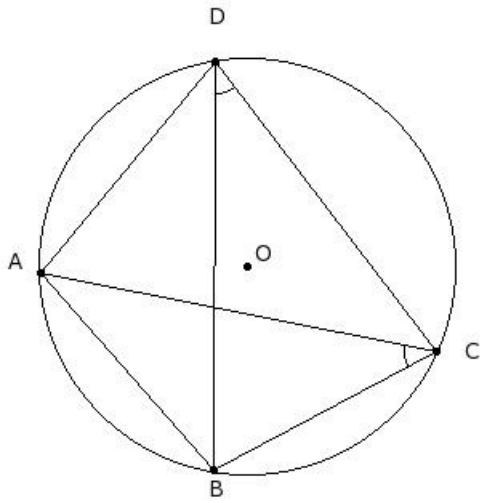
- (i)  $120^\circ$  (ii)  $115^\circ$  (iii)  $110^\circ$  (iv)  $140^\circ$  (v)  $125^\circ$

41. In the given figure, IJKL is a cyclic quadrilateral. If  $\angle IKJ = 31^\circ$  and  $\angle KLJ = 40^\circ$ , find  $\angle IJK$



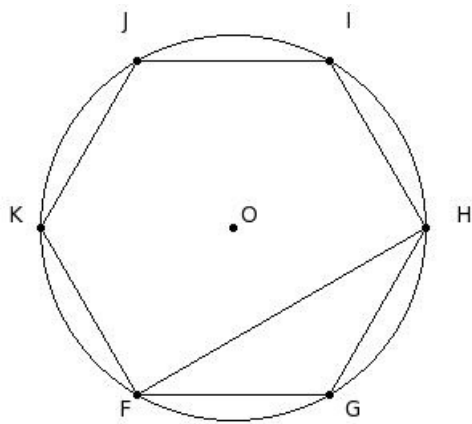
- (i)  $139^\circ$  (ii)  $124^\circ$  (iii)  $114^\circ$  (iv)  $109^\circ$  (v)  $119^\circ$

42. In the given figure, ABCD is a cyclic quadrilateral. If  $\angle ACB = 39^\circ$  and  $\angle CDB = 38^\circ$ , find  $\angle ADC$



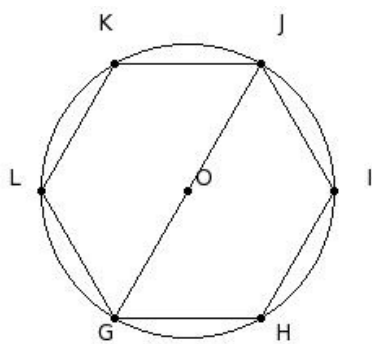
- (i)  $92^\circ$  (ii)  $77^\circ$  (iii)  $87^\circ$  (iv)  $107^\circ$  (v)  $82^\circ$

43. In the given figure, FGHJK is a regular hexagon. Find  $\angle FHG$



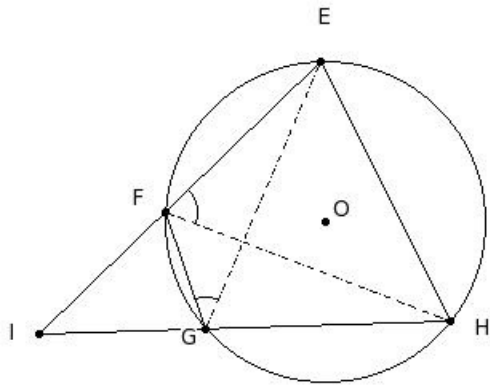
- (i)  $45^\circ$  (ii)  $35^\circ$  (iii)  $60^\circ$  (iv)  $30^\circ$  (v)  $40^\circ$

44. In the given figure, GHIJKL is a regular hexagon. Find  $\angle GJI$



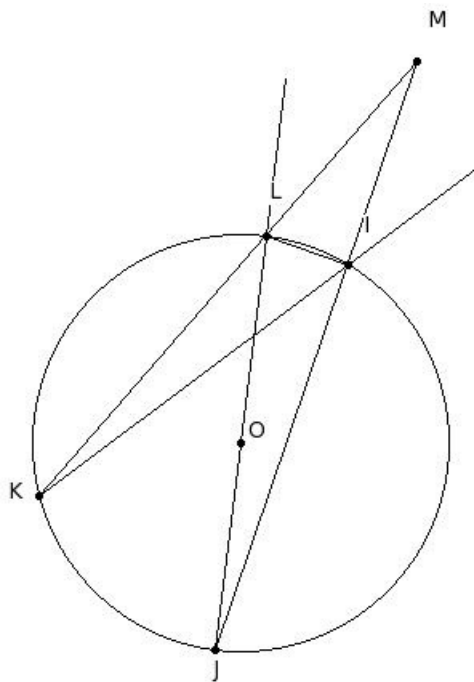
- (i)  $75^\circ$  (ii)  $90^\circ$  (iii)  $65^\circ$  (iv)  $70^\circ$  (v)  $60^\circ$

45. In the given figure, EFGH is a cyclic quadrilateral. If  $\angle EFH = 65^\circ$  and  $\angle FGE = 42^\circ$ , find  $\angle FGH$



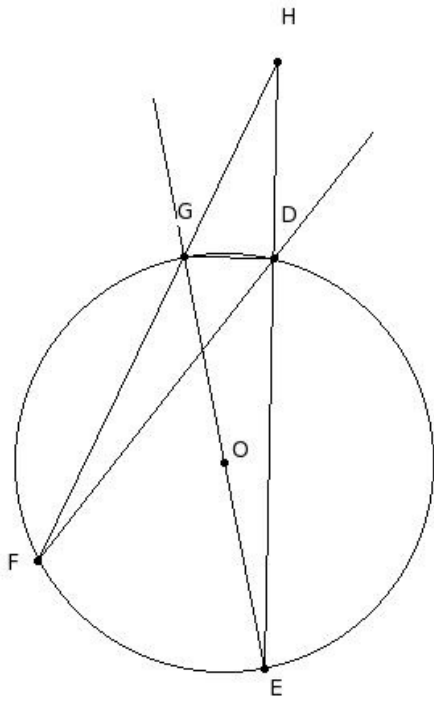
- (i)  $112^\circ$  (ii)  $122^\circ$  (iii)  $107^\circ$  (iv)  $117^\circ$  (v)  $137^\circ$

46. In the given figure,  $\angle IKL = 12^\circ$  and  $\angle IML = 22^\circ$ , find  $\angle KIL$



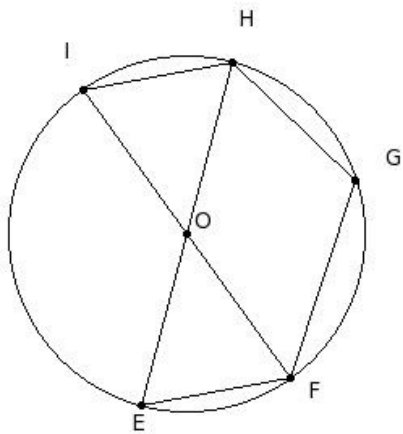
- (i)  $66^\circ$  (ii)  $71^\circ$  (iii)  $56^\circ$  (iv)  $61^\circ$  (v)  $86^\circ$

47. In the given figure,  $\angle DFG = 12^\circ$  and  $\angle DHG = 24^\circ$ , find  $\angle EGD$



- (i)  $93^\circ$  (ii)  $78^\circ$  (iii)  $83^\circ$  (iv)  $108^\circ$  (v)  $88^\circ$

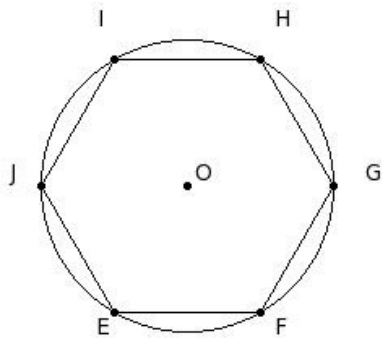
48. In the given figure, EF, FG, GH and HI are chords and EH, FI are diameters passing through the centre O. If  $\angle EOF = 50^\circ$ . Find  $\angle FGH$



- (i)  $145^\circ$  (ii)  $115^\circ$  (iii)  $125^\circ$  (iv)  $120^\circ$  (v)  $130^\circ$

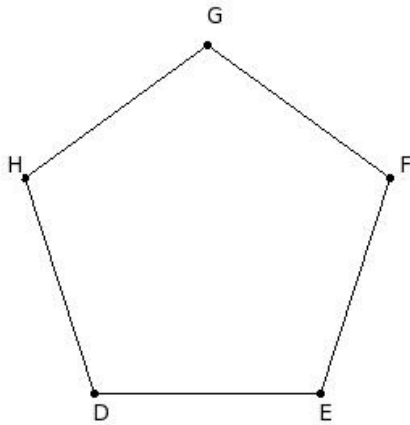
49. In the given figure, EFGHIJ is a regular hexagon inscribed in a circle with centre O. Which of the following are true?

- a)  $\angle JHG = 90^\circ$
- b)  $\angle EGF = 60^\circ$
- c)  $\angle EOJ = 60^\circ$
- d)  $\angle FOH = 120^\circ$
- e)  $\angle FIG = 30^\circ$



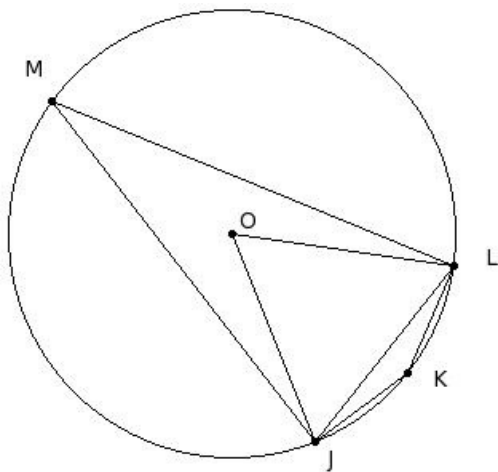
- (i) {b,c} (ii) {b,a} (iii) {b,d} (iv) {a,c,d,e} (v) {b,e,a}

50. In the given figure, DEFGH is a regular pentagon. Find  $\angle DHF$



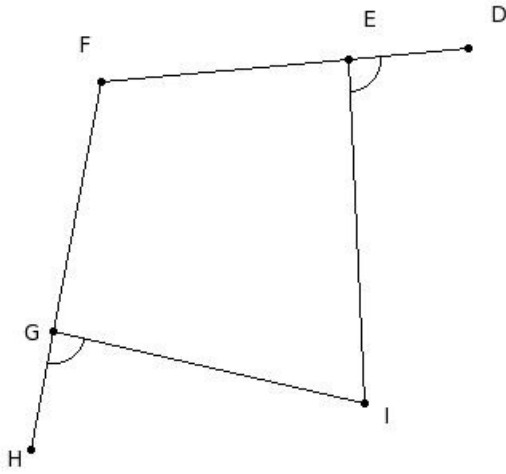
- (i)  $82^\circ$  (ii)  $77^\circ$  (iii)  $72^\circ$  (iv)  $102^\circ$  (v)  $87^\circ$

51. In the given figure, JL is a chord which is equal to the radius of the circle. Find  $\angle M$  and  $\angle K$



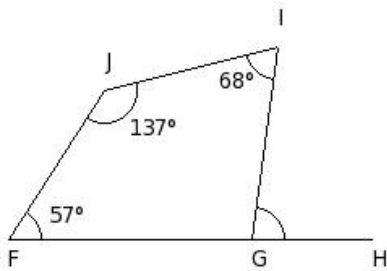
- (i)  $60^\circ$  &  $120^\circ$  (ii)  $40^\circ$  &  $140^\circ$  (iii)  $50^\circ$  &  $130^\circ$  (iv)  $30^\circ$  &  $150^\circ$  (v)  $45^\circ$  &  $135^\circ$

52. In the given figure, EFGI is a cyclic quadrilateral where FG and FE are produced to H and D respectively. If  $\angle DEI = 92^\circ$ , find  $\angle HGI$



- (i)  $98^\circ$  (ii)  $88^\circ$  (iii)  $103^\circ$  (iv)  $93^\circ$  (v)  $118^\circ$

53. In the given figure,  $\angle F = 57^\circ$ ,  $\angle I = 68^\circ$  and  $\angle J = 137^\circ$ , find  $\angle IGH$



- (i)  $87^\circ$  (ii)  $112^\circ$  (iii)  $82^\circ$  (iv)  $97^\circ$  (v)  $92^\circ$

54. Which of the following statements are true?

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

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

55. Which of the following statements are true?

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

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

56. Which of the following are not cyclic quadrilaterals?

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

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

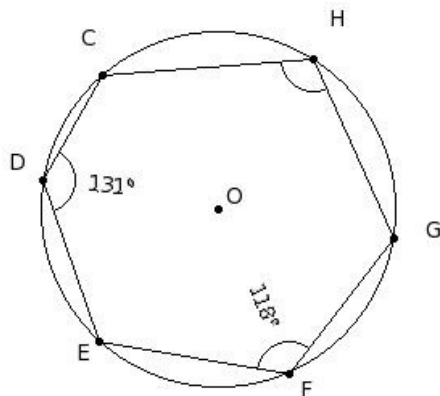
57. If BCDE is a cyclic quadrilateral and  $\angle B - \angle D = 100^\circ$ , then  $\angle D$

- (i)  $40^\circ$  (ii)  $55^\circ$  (iii)  $45^\circ$  (iv)  $70^\circ$  (v)  $50^\circ$

58. If ABCD is a cyclic parallelogram, then  $\angle D$

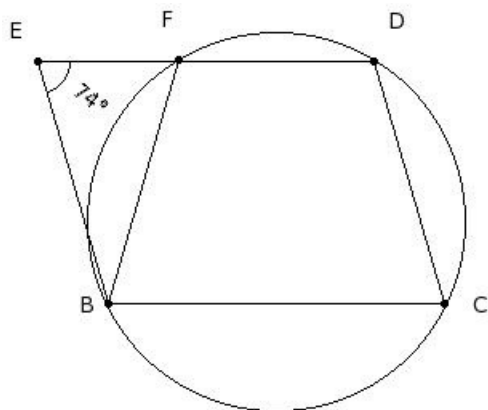
- (i)  $95^\circ$  (ii)  $100^\circ$  (iii)  $120^\circ$  (iv)  $90^\circ$  (v)  $105^\circ$

59. CDEFGH is a hexagon inscribed in a circle. Given  $\angle CDE = 131^\circ$  &  $\angle EFG = 118^\circ$ , find  $\angle GHC$



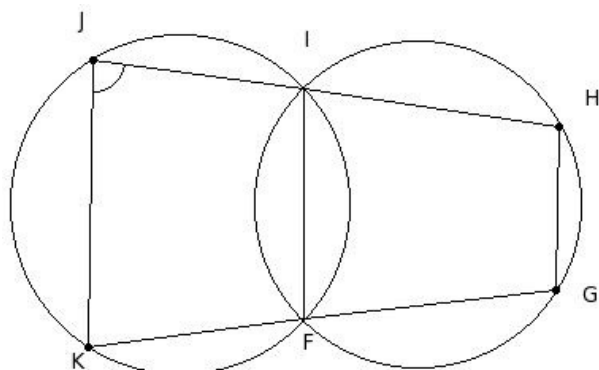
- (i)  $141^\circ$  (ii)  $116^\circ$  (iii)  $121^\circ$  (iv)  $126^\circ$  (v)  $111^\circ$

60. In the given figure, BCDE is a parallelogram. The circumcircle of  $\triangle BCD$  cuts DE at F. Given  $\angle BEF = 74^\circ$ , find  $\angle EBF$



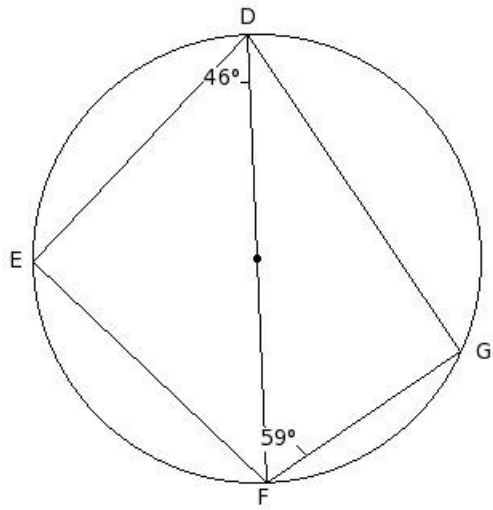
- (i)  $32^\circ$  (ii)  $62^\circ$  (iii)  $42^\circ$  (iv)  $47^\circ$  (v)  $37^\circ$

61. In the given figure, JH and KG are two lines passing through the points of intersection of the two circles at I and F. If  $\angle KJI = 83^\circ$ , find  $\angle IHG$



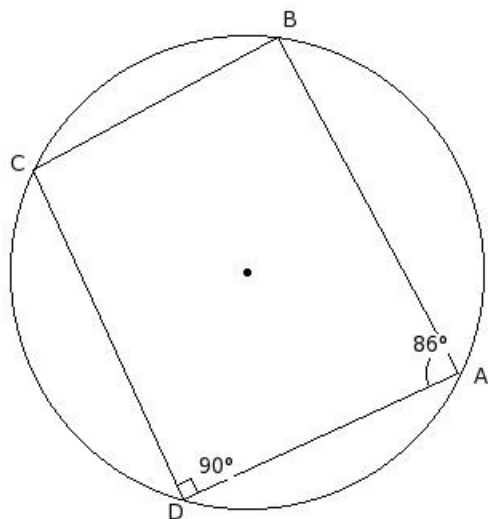
- (i)  $97^\circ$  (ii)  $127^\circ$  (iii)  $107^\circ$  (iv)  $102^\circ$  (v)  $112^\circ$

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



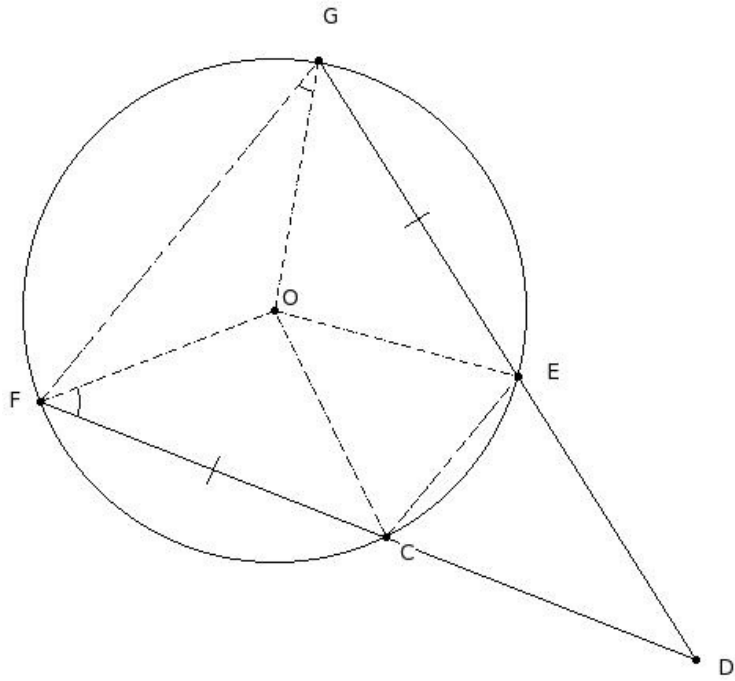
- (i)  $D = 79^\circ, E = 90^\circ, F = 101^\circ, G = 90^\circ$  (ii)  $D = 78^\circ, E = 90^\circ, F = 102^\circ, G = 90^\circ$   
 (iii)  $D = 76^\circ, E = 90^\circ, F = 104^\circ, G = 90^\circ$  (iv)  $D = 75^\circ, E = 90^\circ, F = 105^\circ, G = 90^\circ$   
 (v)  $D = 77^\circ, E = 90^\circ, F = 103^\circ, G = 90^\circ$

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



- (i)  $B = 89^\circ, C = 93^\circ$  (ii)  $B = 88^\circ, C = 92^\circ$  (iii)  $B = 90^\circ, C = 94^\circ$  (iv)  $B = 92^\circ, C = 96^\circ$  (v)  $B = 91^\circ, C = 95^\circ$

64. In the given figure,  $\angle OGF = 29^\circ$  &  $\angle OFC = 43^\circ$ , find  $\angle EDC$



- (i)  $36^\circ$  (ii)  $46^\circ$  (iii)  $66^\circ$  (iv)  $51^\circ$  (v)  $41^\circ$

## Assignment Key

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