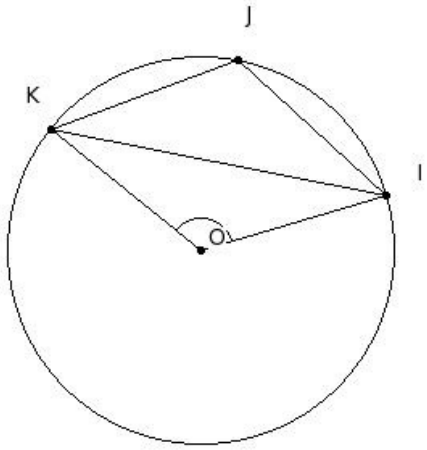
EduSahara™ Assignment

Name : Circles - Angle Properties

Chapter : Angle Properties of a Circle

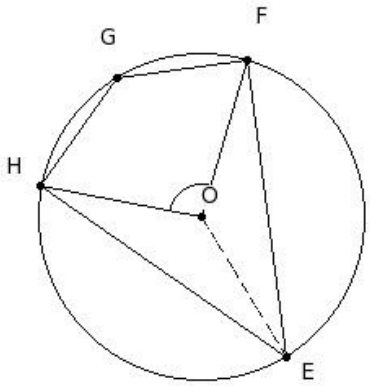
Grade : ICSE Grade X

1. O is the centre of the circle. If $\angle O = 125°$, find $\angle J$



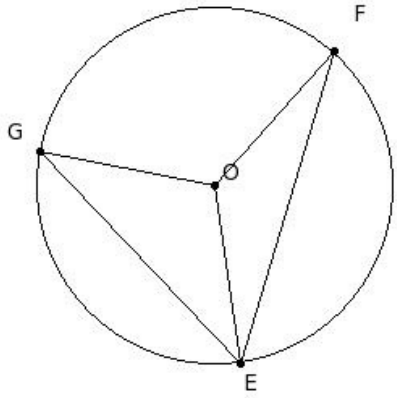
(i) 122.5° (ii) 127.5° (iii) 132.5° (iv) 117.5° (v) 147.5°

2. O is the centre of the circle. If ∠FOH = 95°, find ∠E



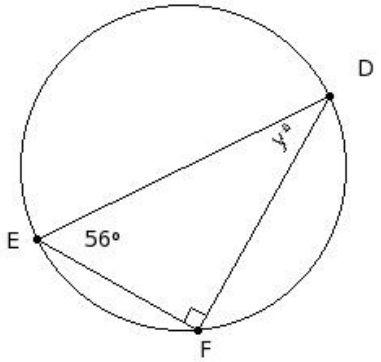
(i) 62.5° (ii) 52.5° (iii) 57.5° (iv) 77.5° (v) 47.5°

3. O is the centre of the circle. If ∠FOE = 130° and ∠GOE = 109°, find ∠FEG



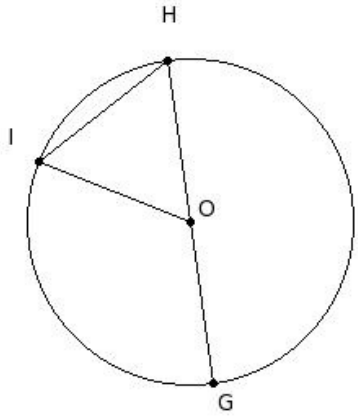
(i) 60.5° (ii) 90.5° (iii) 75.5° (iv) 65.5° (v) 70.5°

4. Find the missing angle in the following figure?



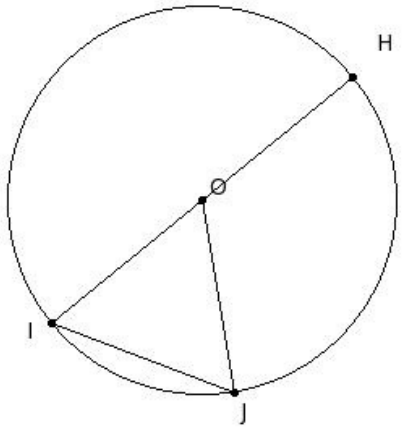
(i) 39° (ii) 34° (iii) 49° (iv) 64° (v) 44°

5. O is the centre of the circle and OI = HI. Find ∠HOI



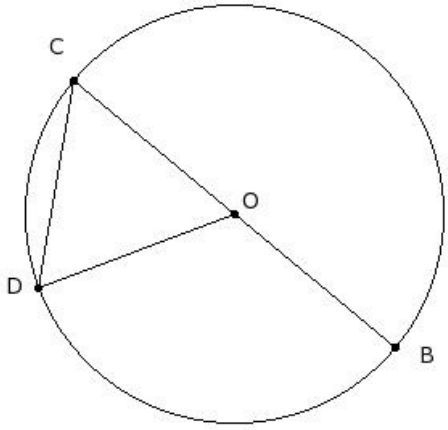
(i) 90° (ii) 65° (iii) 70° (iv) 75° (v) 60°

6. O is the centre of the circle and OJ = IJ. Find ∠JOH



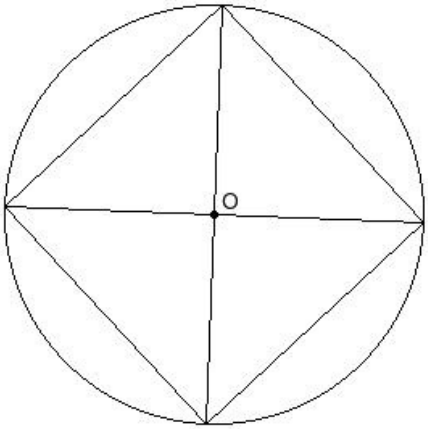
(i) 120° (ii) 130° (iii) 135° (iv) 125° (v) 150°

7. O is the centre of the circle and OD = CD. Find reflex ∠DOB



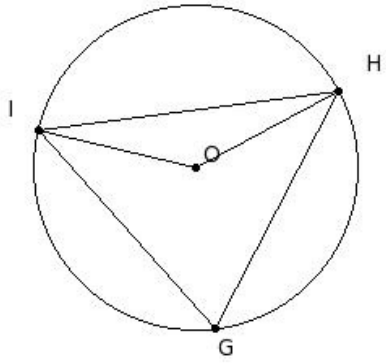
(i) 250° (ii) 240° (iii) 245° (iv) 255° (v) 270°

8. Find the side of the square in the following figure if the radius of the circle is 13.00 cm.



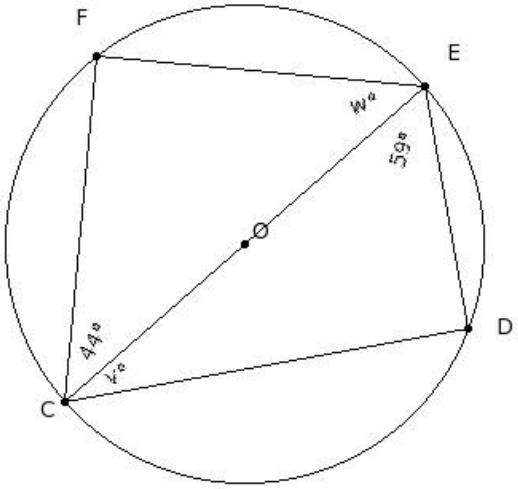
(i) 18.38 cm (ii) 19.38 cm (iii) 17.38 cm (iv) 16.38 cm (v) 20.38 cm

9. O is the centre of the circle. If $\angle G + \angle HOI = 208.5°$, find $\angle HOI$



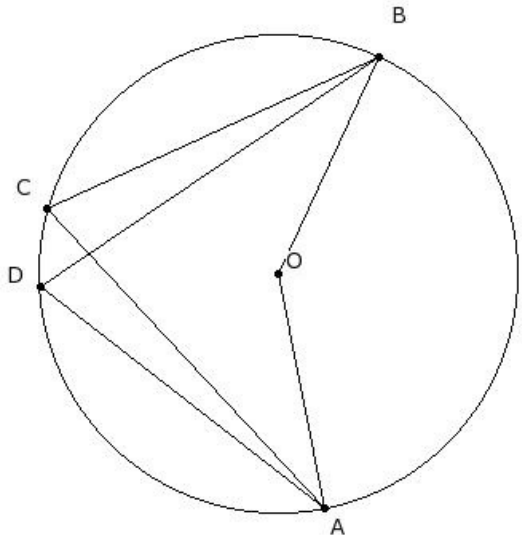
(i) 169° (ii) 149° (iii) 144° (iv) 154° (v) 139°

10. O is the centre of the circle. If ∠CED = 59° and ∠ECF = 44°, find v°, w°



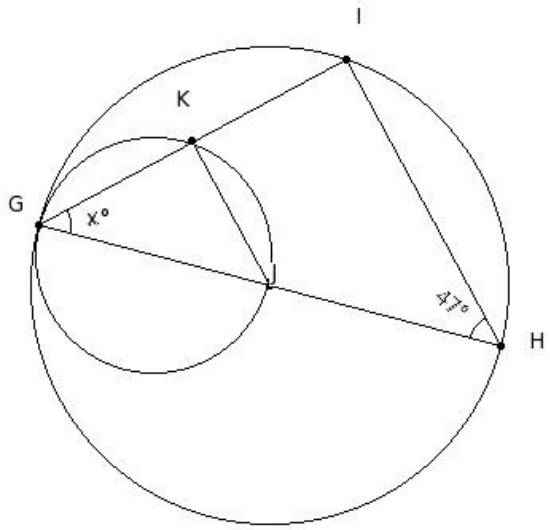
(i) 76°, 51° (ii) 46°, 31° (iii) 31°, 46° (iv) 36°, 31° (v) 56°, 41°

11. O is the centre of the circle. If ∠AOB = 144°, find the angle ∠D



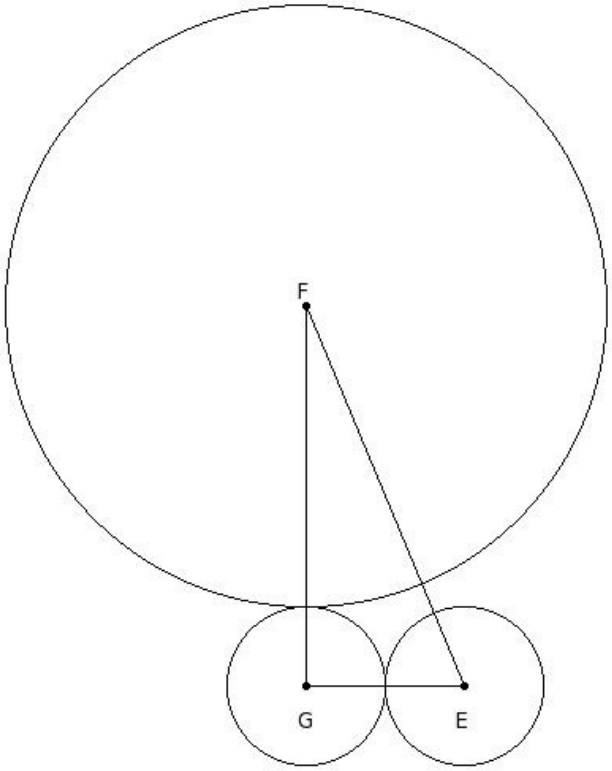
(i) 77° (ii) 82° (iii) 72° (iv) 87° (v) 102°

12. Two circles touch internally. J is the centre of the bigger circle and lies on the smaller circle. If ∠GHI = 47°, find ∠G



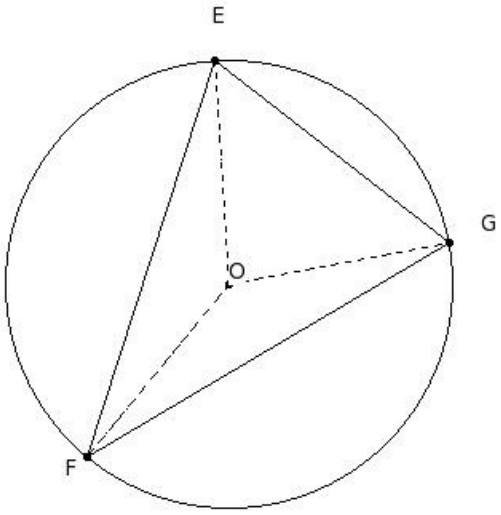
(i) 73° (ii) 43° (iii) 58° (iv) 48° (v) 53°

13. 'E' and 'F' are centres of circles of radii 5 cm and 19 cm such that EF = 26 cm and 'G' is the centre of the circle of radius 'r' cm which touches the above circles externally. If ∠EGF = 90°, find 'r'



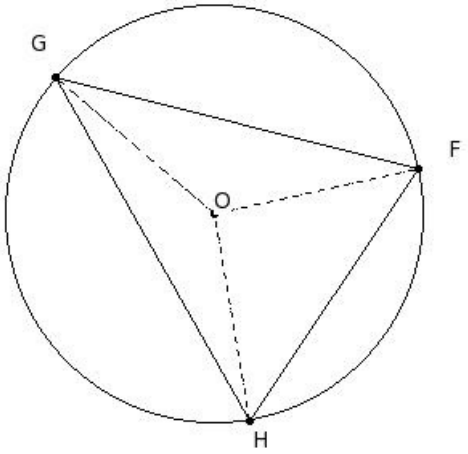
(i) 5 cm (ii) 7 cm (iii) 3 cm (iv) 6 cm (v) 4 cm

14. △EFG is inscribed in a circle with centre O. If ∠EOF = 137° and ∠FOG = 140°, find ∠GEF



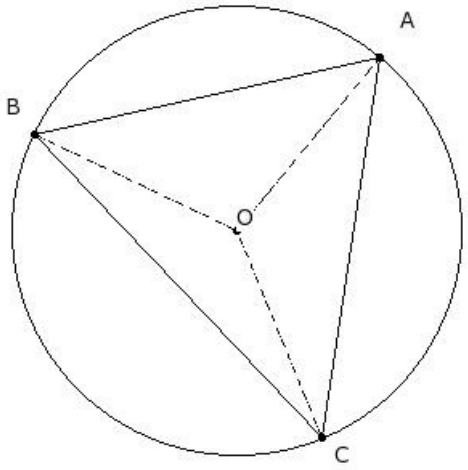
(i) 75° (ii) 80° (iii) 85° (iv) 100° (v) 70°

15. △FGH is inscribed in a circle with centre O. If ∠FOG = 127° and ∠GOH = 140°, find ∠FGH



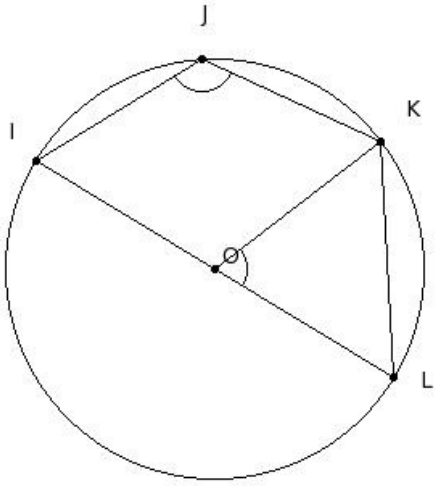
(i) 51.5° (ii) 46.5° (iii) 61.5° (iv) 76.5° (v) 56.5°

16. △ABC is inscribed in a circle with centre O. If ∠AOB = 104° and ∠BOC = 138°, find ∠BCA



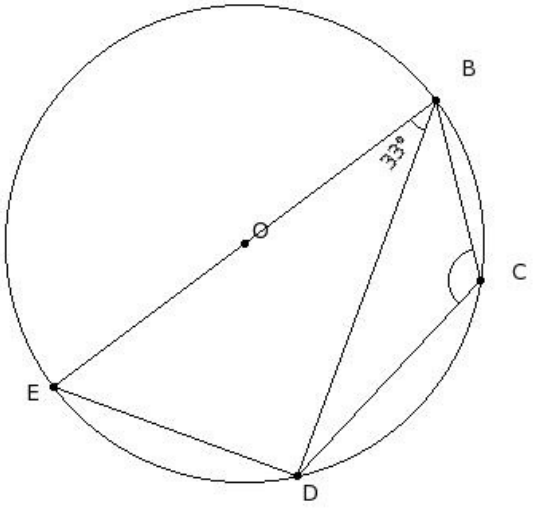
(i) 67° (ii) 62° (iii) 82° (iv) 52° (v) 57°

17. O is the centre of the circle. If ∠IJK = 124.5°, find ∠KOL



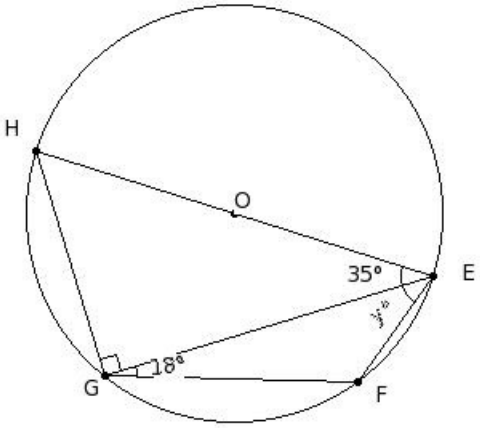
(i) 79° (ii) 99° (iii) 69° (iv) 84° (v) 74°

18. O is the centre of the circle and ∠EBD = 33°, find ∠BCD



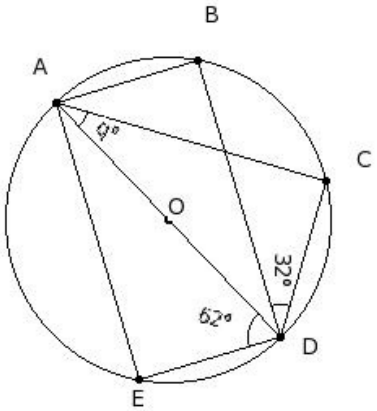
(i) 128° (ii) 133° (iii) 138° (iv) 153° (v) 123°

19. O is the centre of the circle. If ∠GEH = 35° and ∠EGF = 18°, find ∠FEG



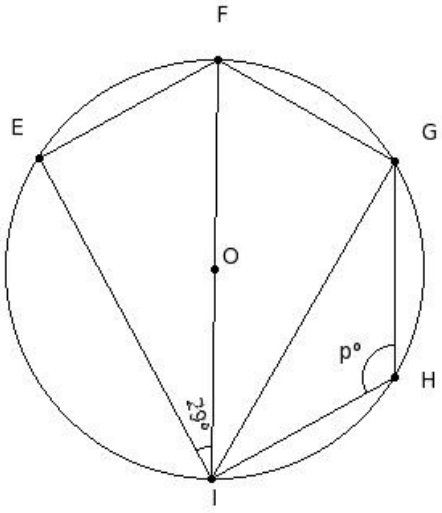
(i) 47° (ii) 67° (iii) 37° (iv) 42° (v) 52°

20. In the given figure, O is the centre of the circle and AD is a diameter. If ∠ADE = 62° and ∠BDC = 32°, find ∠DAC



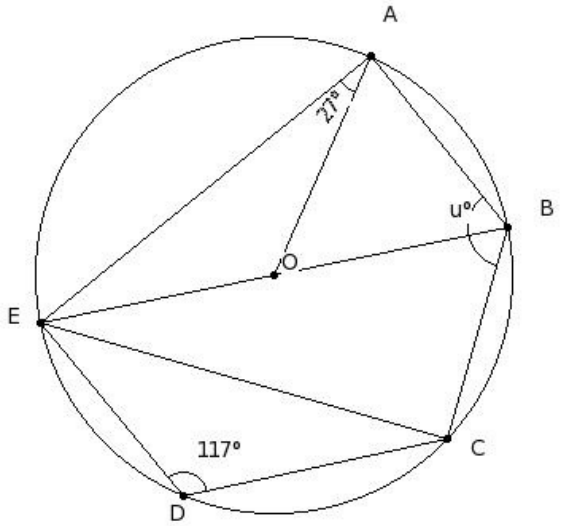
(i) 30° (ii) 45° (iii) 40° (iv) 35° (v) 60°

21. 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



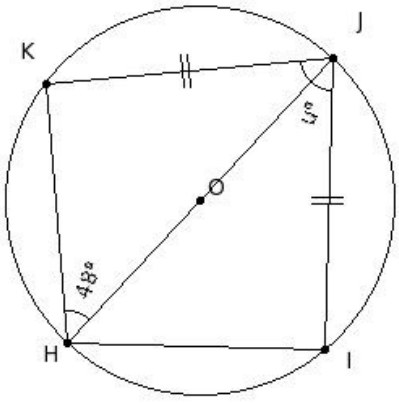
(i) 134° (ii) 129° (iii) 149° (iv) 124° (v) 119°

22. In the given figure, O is the centre of the circle and chord AB is equal to chord BC and BE is a diameter. If ∠EAO = 27° and ∠CDE = 117°, find ∠ABC



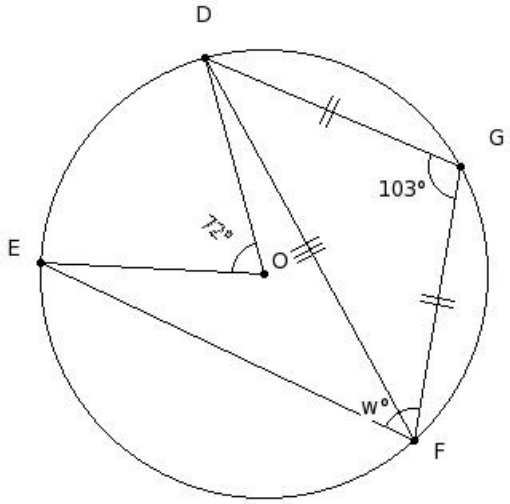
(i) 126° (ii) 131° (iii) 136° (iv) 156° (v) 141°

23. 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



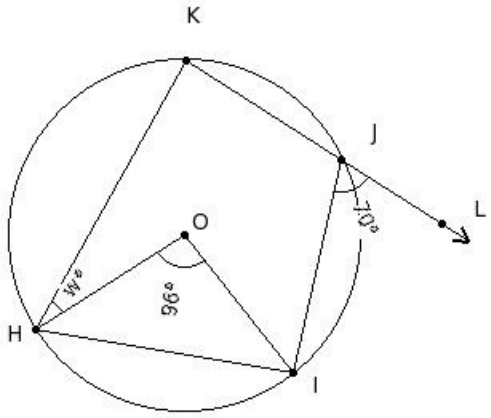
(i) 99° (ii) 94° (iii) 114° (iv) 84° (v) 89°

24. In the given figure, O is the centre of the circle , chord DG is equal to chord GF. If ∠DOE = 72° and ∠DGF = 103°, find ∠EFG



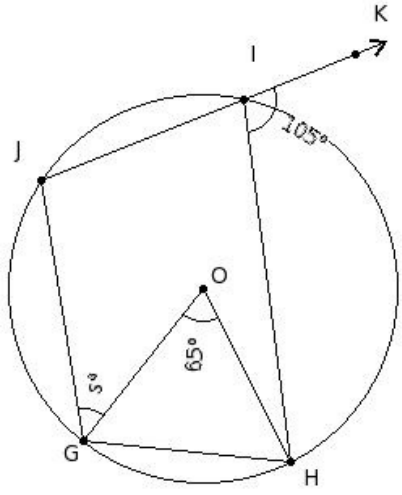
(i) 74.5° (ii) 89.5° (iii) 79.5° (iv) 104.5° (v) 84.5°

25. In the given figure, O is the centre of the circle. If ∠HOI = 96° and ∠IJL = 70°, find ∠KHO



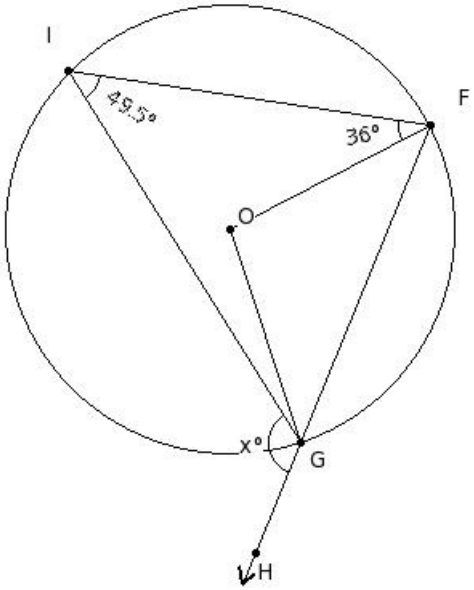
(i) 58° (ii) 28° (iii) 38° (iv) 43° (v) 33°

26. In the given figure, O is the centre of the circle. If ∠GOH = 65° and ∠HIK = 105°, find ∠JGO



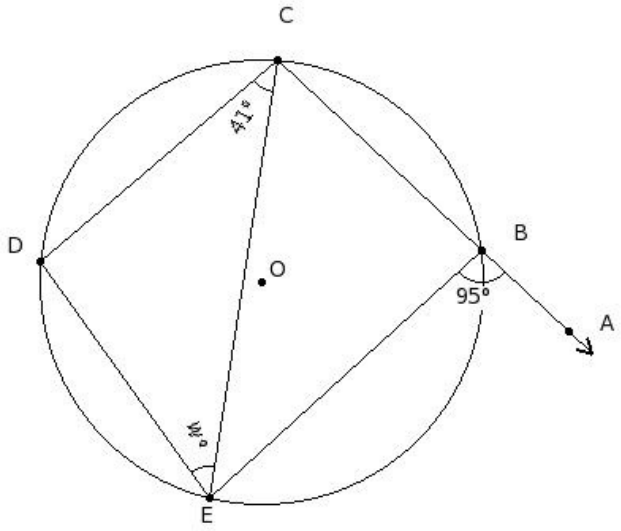
(i) 57.5° (ii) 62.5° (iii) 47.5° (iv) 52.5° (v) 77.5°

27. In the given figure, O is the centre of the circle. If ∠FIG = 49.5° and ∠OFI = 36°, find ∠HGI



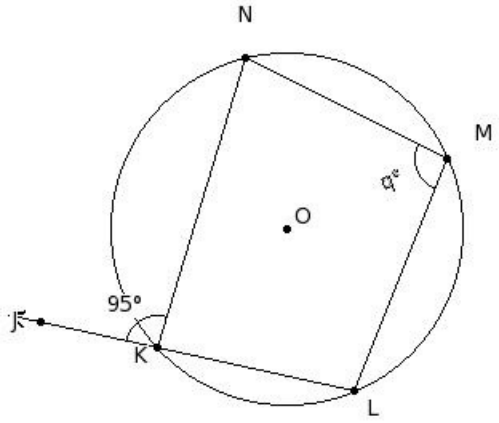
(i) 131° (ii) 126° (iii) 156° (iv) 136° (v) 141°

28. In the given figure, O is the centre of the circle. If ∠ECD = 41° and ∠ABE = 95°, find ∠CED



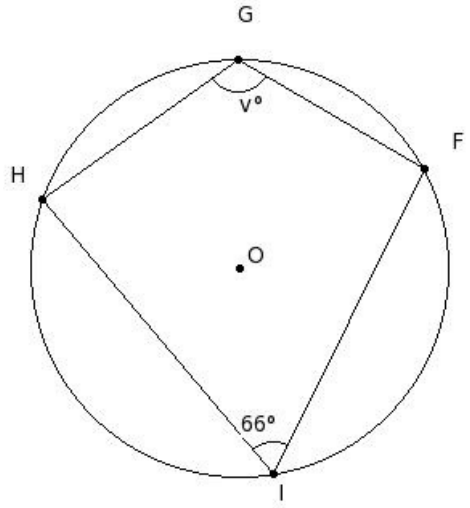
(i) 44° (ii) 49° (iii) 54° (iv) 74° (v) 59°

29. In the given figure, O is the centre of the circle. If ∠JKN = 95°, find ∠LMN



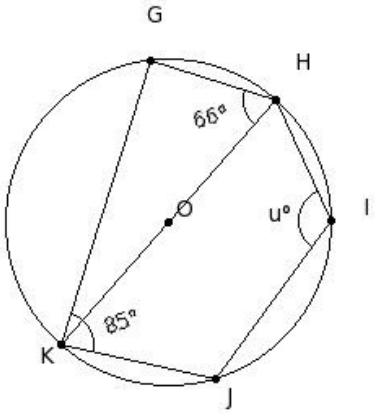
(i) 95° (ii) 110° (iii) 100° (iv) 105° (v) 125°

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



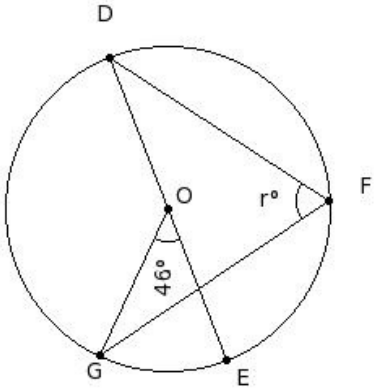
(i) 129° (ii) 114° (iii) 124° (iv) 144° (v) 119°

31. In the given figure, O is the centre of the circle and HK is a diameter. If ∠JKG = 85° and ∠GHK = 66°, find ∠HIJ



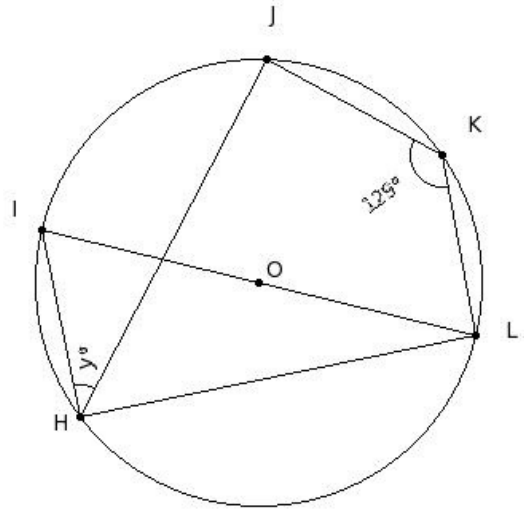
(i) 129° (ii) 124° (iii) 134° (iv) 119° (v) 149°

32. In the given figure, O is the centre of the circle and DE is a diameter. If ∠EOG = 46°, find ∠DFG



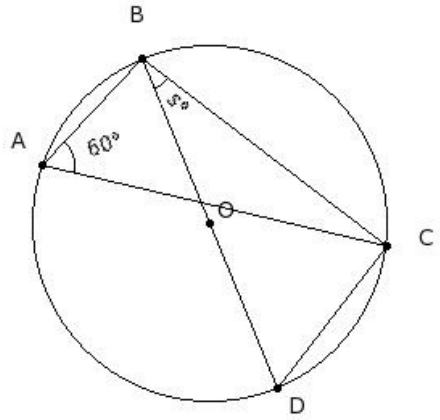
(i) 72° (ii) 77° (iii) 67° (iv) 82° (v) 97°

33. In the given figure, O is the centre of the circle and IL is a diameter. If ∠JKL = 129°, find ∠JHI



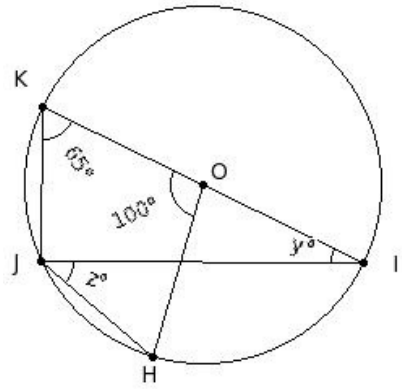
(i) 44° (ii) 39° (iii) 69° (iv) 49° (v) 54°

34. In the given figure, O is the centre of the circle and BD is a diameter. If ∠CAB = 60°, find ∠CBD



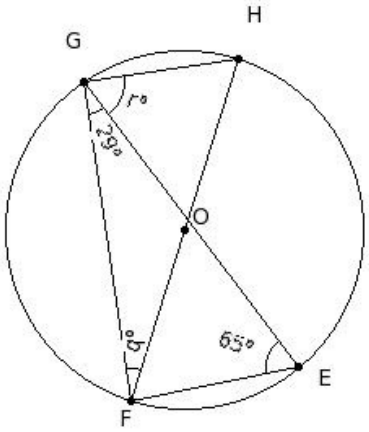
(i) 45° (ii) 35° (iii) 30° (iv) 40° (v) 60°

35. In the given figure, O is the centre of the circle and IK is a diameter. If ∠HOK = 100° and ∠OKJ = 65°, find ∠IJH + ∠JIK



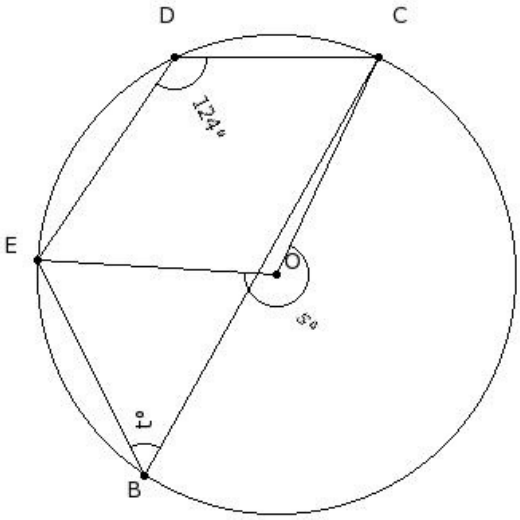
(i) 80° (ii) 65° (iii) 95° (iv) 70° (v) 75°

36. In the given figure, O is the centre of the circle and FH is a diameter. If ∠EGF = 29° and ∠FEG = 65°, find ∠HFG + ∠EGH



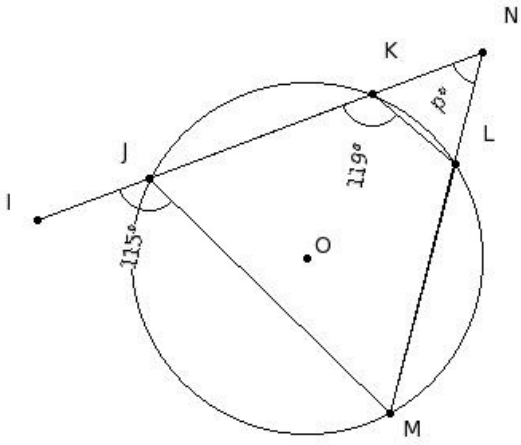
(i) 86° (ii) 96° (iii) 116° (iv) 91° (v) 101°

37. In the given figure, O is the centre of the circle. If ∠CDE = 124°, find ∠EOC + ∠CBE



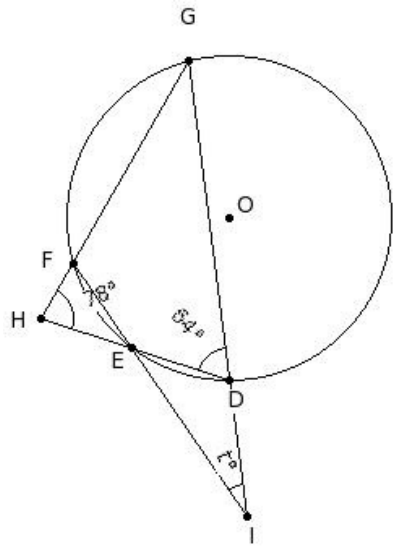
(i) 304° (ii) 309° (iii) 319° (iv) 314° (v) 334°

38. In the given figure, O is the centre of the circle. If ∠IJM = 115° and ∠JKL = 119°, find ∠KNL



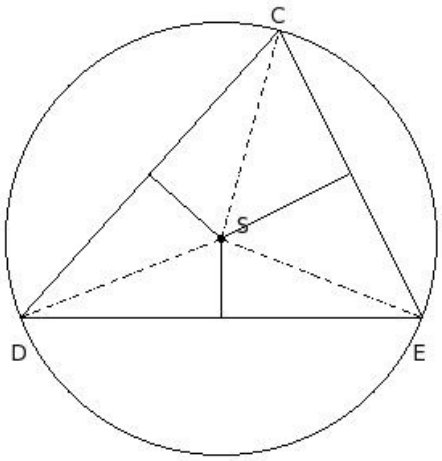
(i) 69° (ii) 84° (iii) 64° (iv) 59° (v) 54°

39. In the given figure, O is the centre of the circle . If ∠EHF = 78° and ∠EDG = 64°, find ∠DIE



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

40. In the given triangle S is the circumcentre. If SC = 13.40 cm, find the circumference of the circumcircle



(i) 84.2 cm (ii) 86.2 cm (iii) 83.2 cm (iv) 85.2 cm (v) 82.2 cm

41. Two circles with radii R and r touch internally. If the distance between their centres is d, then

(i) d = R - r (ii) d < R + r (iii) d = R + r (iv) d > R - r (v) d < R - r

42. Two circles with equal radii are

(i) congruent (ii) concentric (iii) not similar (iv) only similar but not congruent

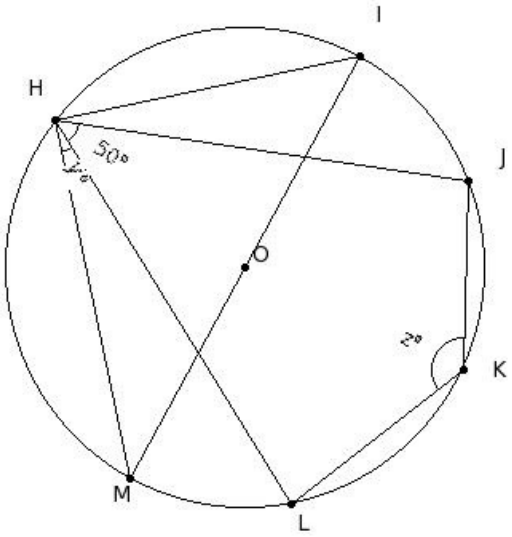
43. If two circles of radii 12 cm and 6 cm touch internally, the distance between their centres is

(i) 6 cm (ii) 4 cm (iii) 5 cm (iv) 7 cm (v) 8 cm

44. If two circles of radii 12 cm and 5 cm touch externally, the distance between their centres is

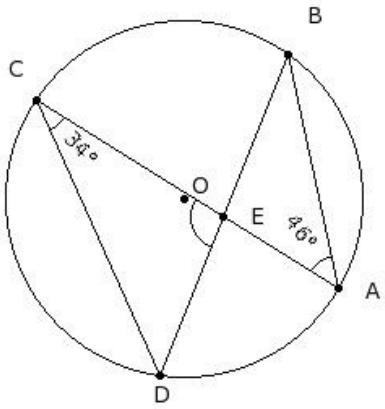
(i) 17 cm (ii) 15 cm (iii) 16 cm (iv) 18 cm (v) 19 cm

45. In the given figure, O is the centre and IM is a diameter of the circle and chord IJ is equal to chord LM. If ∠JHL = 50°, find ∠LHM + ∠JKL



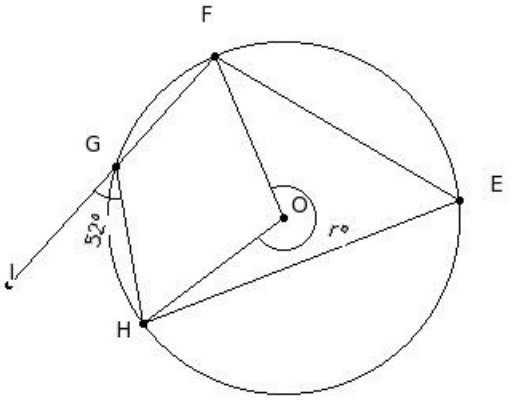
(i) 165° (ii) 155° (iii) 150° (iv) 180° (v) 160°

46. In the given figure, O is the centre of the circle. If ∠BAC = 46° and ∠ACD = 34°, find ∠CED



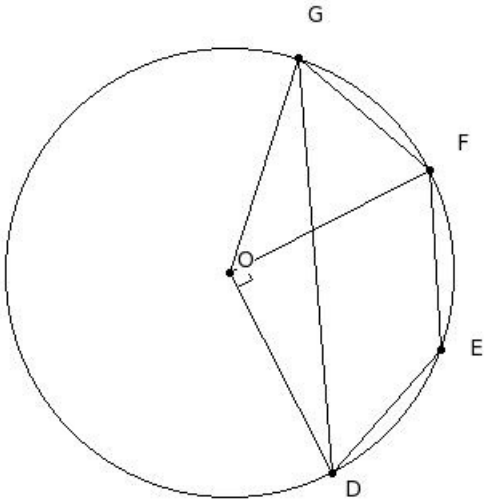
(i) 115° (ii) 130° (iii) 110° (iv) 100° (v) 105°

47. In the given figure, O is the centre of the circle. If ∠IGH = 52°, find reflex ∠HOF



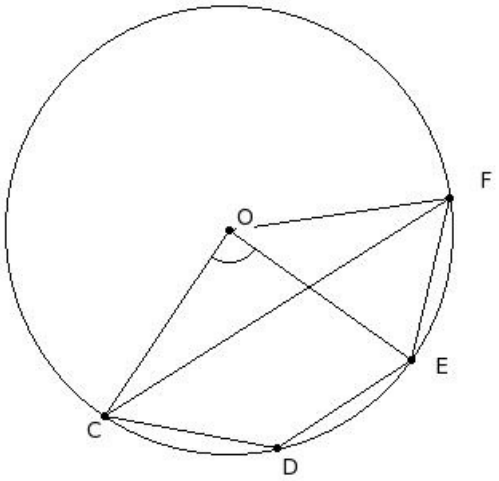
(i) 266° (ii) 286° (iii) 256° (iv) 271° (v) 261°

48. O is the centre of the circle. If Arc DF = 2 Arc FG and ∠DOF = 90°, find ∠DGF



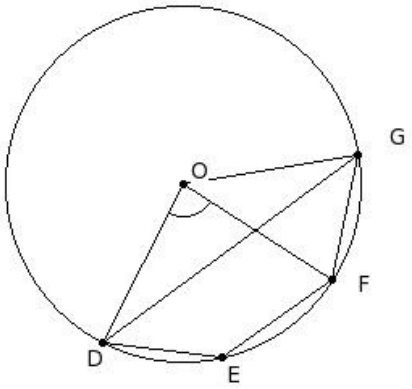
(i) 45° (ii) 55° (iii) 75° (iv) 50° (v) 60°

49. O is the centre of the circle. If Arc CE = 2 Arc EF and ∠COE = 88°, find ∠FCE



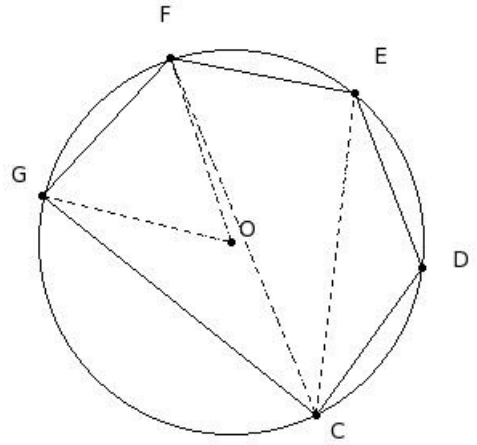
(i) 32° (ii) 22° (iii) 27° (iv) 52° (v) 37°

50. O is the centre of the circle. If Arc DF = 2 Arc FG and ∠DOF = 84°, find ∠DEF



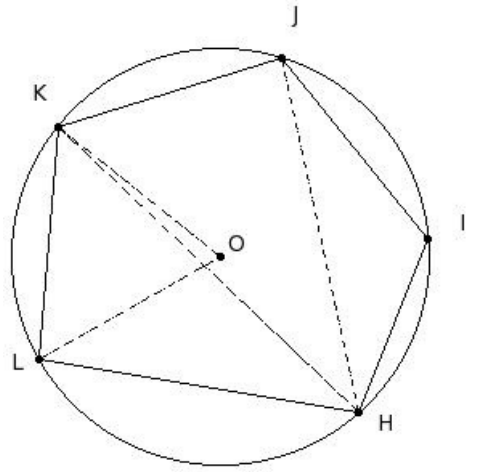
(i) 143° (ii) 168° (iii) 138° (iv) 153° (v) 148°

51. In the given figure, a pentagon is inscribed in a circle with centre O. Given DE = EF = FG and ∠DEF = 122°. Find ∠DCE



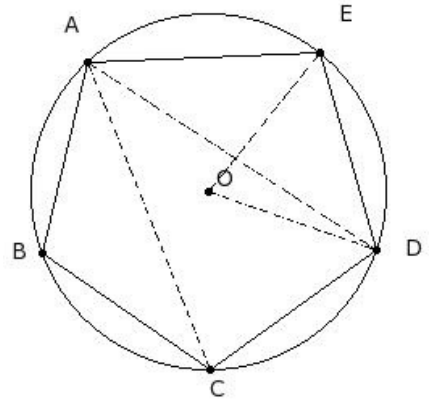
(i) 44° (ii) 29° (iii) 39° (iv) 59° (v) 34°

52. In the given figure, a pentagon is inscribed in a circle with centre O. Given IJ = JK = KL and ∠IJK = 112°. Find ∠IHL



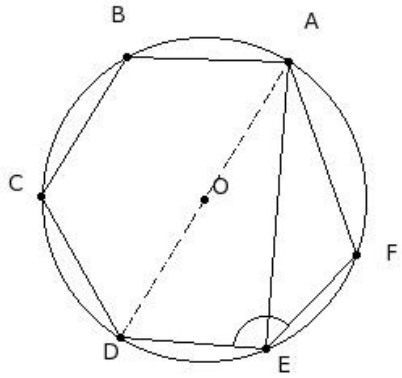
(i) 107° (ii) 102° (iii) 112° (iv) 132° (v) 117°

53. In the given figure, a pentagon is inscribed in a circle with centre O. Given BC = CD = DE and ∠BCD = 110°. Find ∠DOE



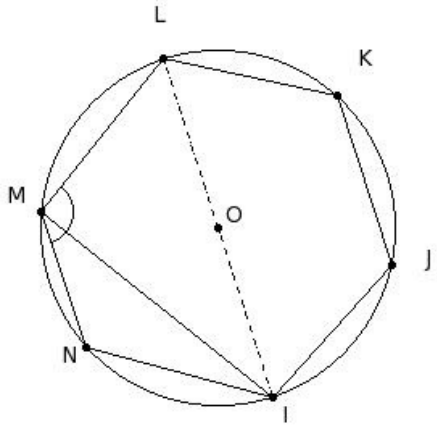
(i) 80° (ii) 70° (iii) 85° (iv) 100° (v) 75°

54. In the given figure, a hexagon is inscribed in a circle with centre O. Given AB = BC = CD and ∠DEF = 129.55°. Find ∠AEF



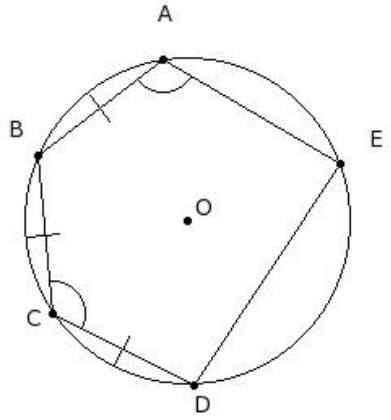
(i) 54.55° (ii) 69.55° (iii) 49.55° (iv) 39.55° (v) 44.55°

55. In the given figure, a hexagon is inscribed in a circle with centre O. Given IJ = JK = KL and ∠LMN = 122.91°. Find ∠NIJ



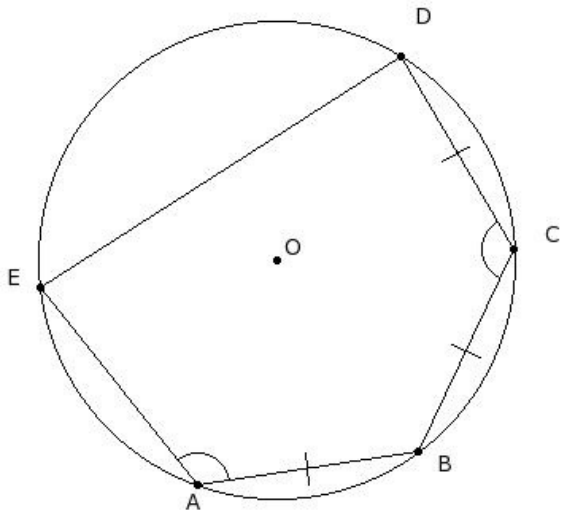
(i) 127.09° (ii) 132.09° (iii) 147.09° (iv) 117.09° (v) 122.09°

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



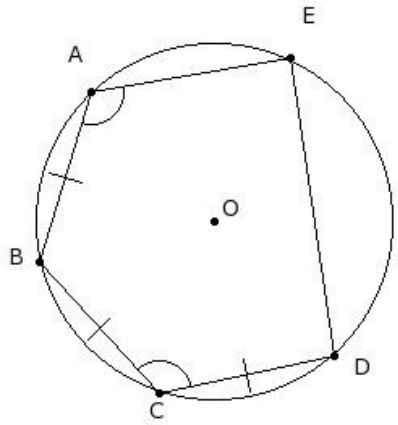
(i) 121° (ii) 146° (iii) 126° (iv) 131° (v) 116°

57. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 112° and ∠EAB = 120°. Find ∠CDE



(i) 124° (ii) 109° (iii) 104° (iv) 99° (v) 94°

58. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 119° and ∠EAB = 116°. Find ∠AED



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

Assignment Key

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