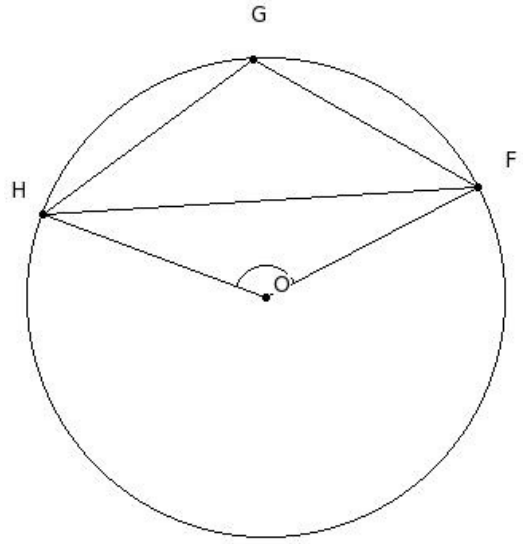
EduSahara™ Assignment

Name : Circles - Angle Properties

Chapter : Angle Properties of a Circle

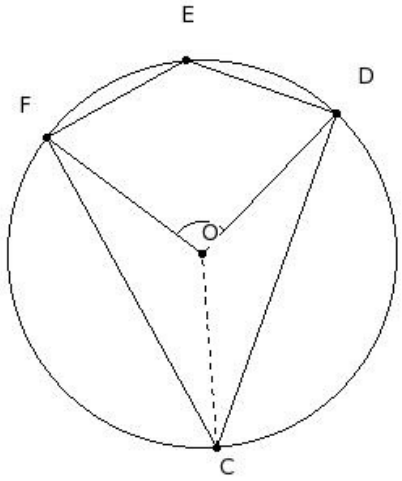
Grade : ICSE Grade X

1. O is the centre of the circle. If $\angle O = 132°$, find $\angle G$



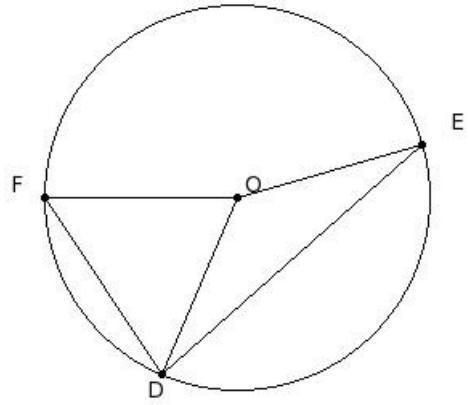
(i) 129° (ii) 119° (iii) 144° (iv) 124° (v) 114°

2. O is the centre of the circle. If $\angle DOF = 97°$, find $\angle C$



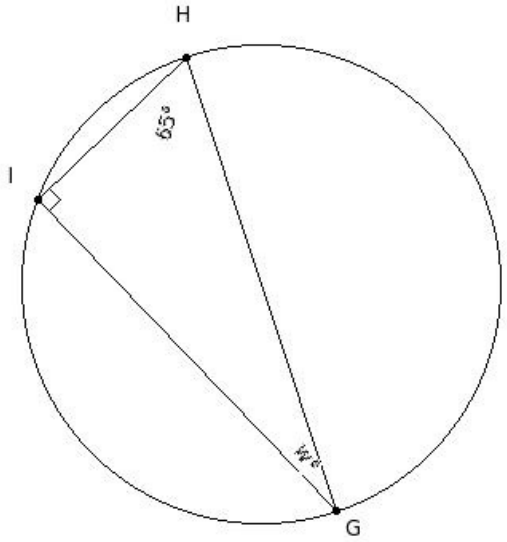
(i) 53.5° (ii) 63.5° (iii) 78.5° (iv) 58.5° (v) 48.5°

3. O is the centre of the circle. If $\angle EOD = 129°$ and $\angle FOD = 67°$, find $\angle EDF$



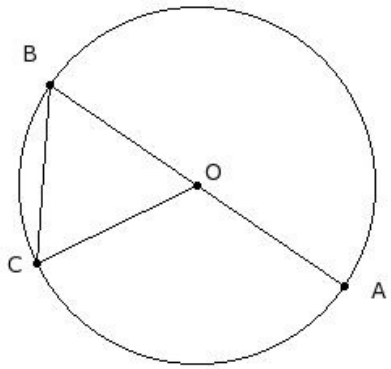
(i) 82° (ii) 97° (iii) 112° (iv) 87° (v) 92°

4. Find the missing angle in the following figure?



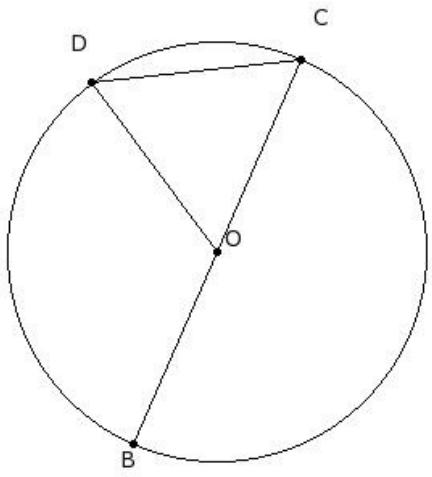
(i) 25° (ii) 40° (iii) 55° (iv) 35° (v) 30°

5. O is the centre of the circle and OC = BC. Find ∠BOC



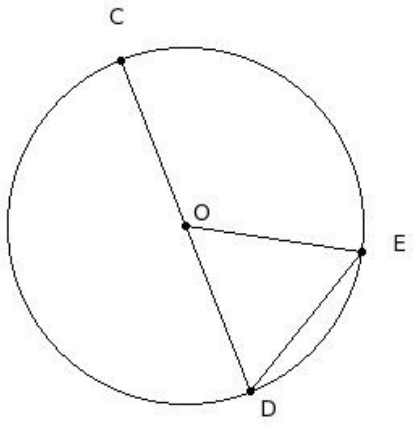
(i) 65° (ii) 60° (iii) 75° (iv) 70° (v) 90°

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



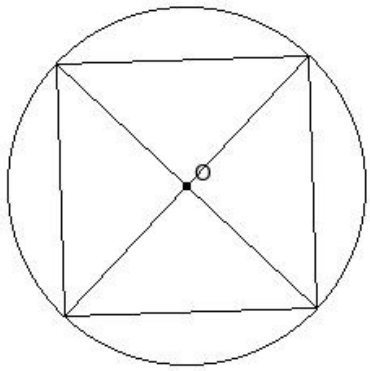
(i) 135° (ii) 130° (iii) 150° (iv) 120° (v) 125°

7. O is the centre of the circle and OE = DE. Find reflex ∠EOC



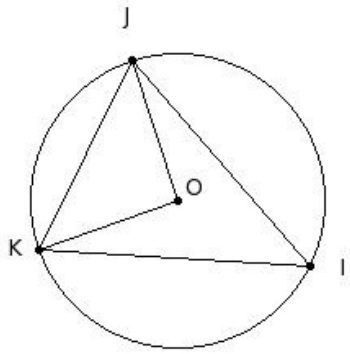
(i) 250° (ii) 240° (iii) 255° (iv) 270° (v) 245°

8. Find the side of the square in the following figure if the radius of the circle is 11.00 cm.



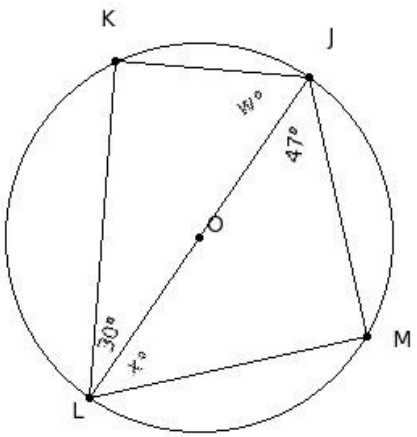
(i) 16.55 cm (ii) 14.55 cm (iii) 17.55 cm (iv) 13.55 cm (v) 15.55 cm

9. O is the centre of the circle. If $\angle I + \angle JOK = 136.5°$, find $\angle JOK$



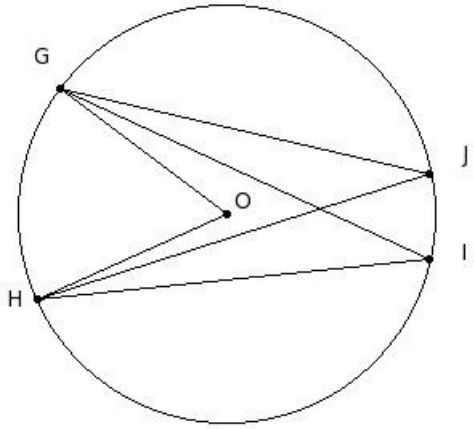
(i) 101° (ii) 121° (iii) 91° (iv) 96° (v) 106°

10. O is the centre of the circle. If ∠JLK = 30° and ∠LJM = 47°, find w°, x°



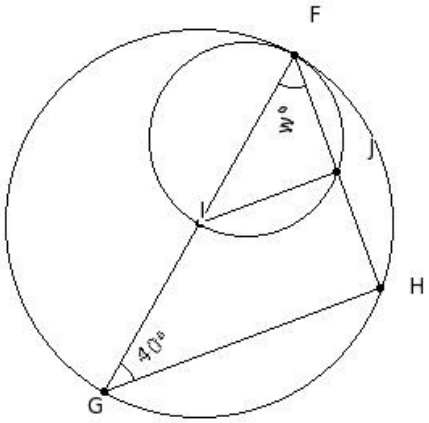
(i) 33°, 60° (ii) 53°, 70° (iii) 60°, 43° (iv) 43°, 60° (v) 73°, 80°

11. O is the centre of the circle. If ∠GOH = 61°, find the angle ∠I



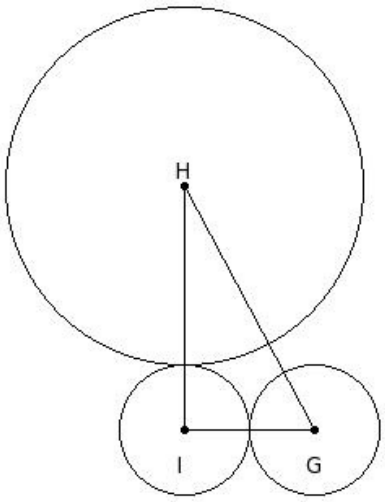
(i) 60.5° (ii) 35.5° (iii) 30.5° (iv) 45.5° (v) 40.5°

12. Two circles touch internally. I is the centre of the bigger circle and lies on the smaller circle. If ∠FGH = 40°, find ∠F



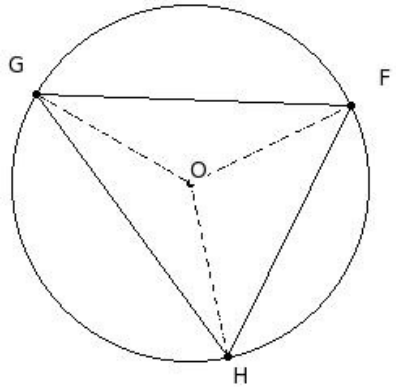
(i) 65° (ii) 55° (iii) 80° (iv) 60° (v) 50°

13. 'G' and 'H' are centres of circles of radii 4 cm and 11 cm such that GH = 17 cm and 'I' is the centre of the circle of radius 'r' cm which touches the above circles externally. If ∠GIH = 90°, find 'r'



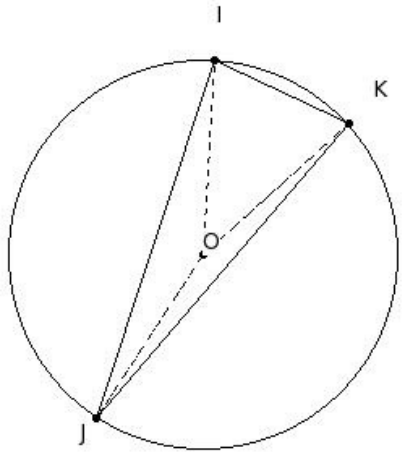
(i) 4 cm (ii) 5 cm (iii) 6 cm (iv) 3 cm (v) 2 cm

14. △FGH is inscribed in a circle with centre O. If ∠FOG = 124° and ∠GOH = 132°, find ∠HFG



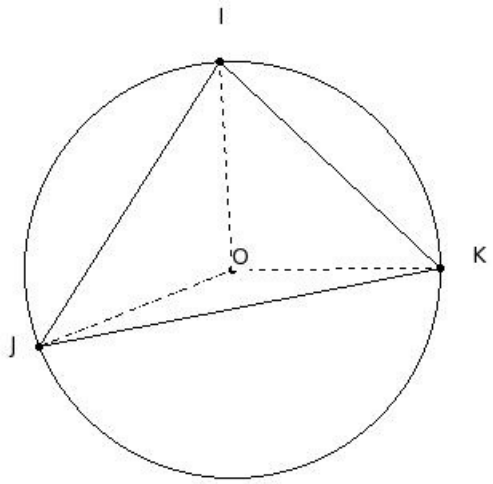
(i) 71° (ii) 96° (iii) 76° (iv) 81° (v) 66°

15. △IJK is inscribed in a circle with centre O. If ∠IOJ = 150° and ∠JOK = 165°, find ∠IJK



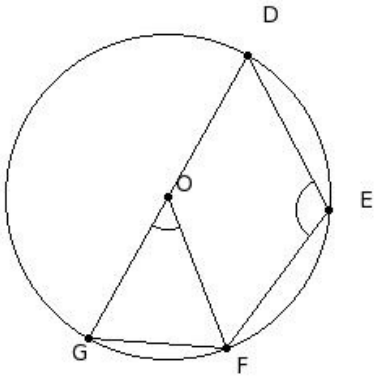
(i) 32.5° (ii) 27.5° (iii) 37.5° (iv) 52.5° (v) 22.5°

16. △IJK is inscribed in a circle with centre O. If ∠IOJ = 108° and ∠JOK = 159°, find ∠JKI



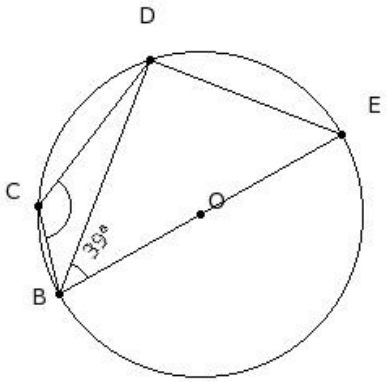
(i) 64° (ii) 54° (iii) 69° (iv) 59° (v) 84°

17. O is the centre of the circle. If ∠DEF = 115°, find ∠FOG



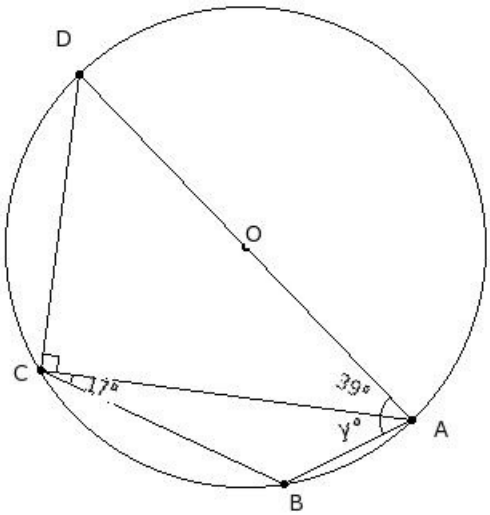
(i) 50° (ii) 55° (iii) 60° (iv) 65° (v) 80°

18. O is the centre of the circle and ∠EBD = 39°, find ∠BCD



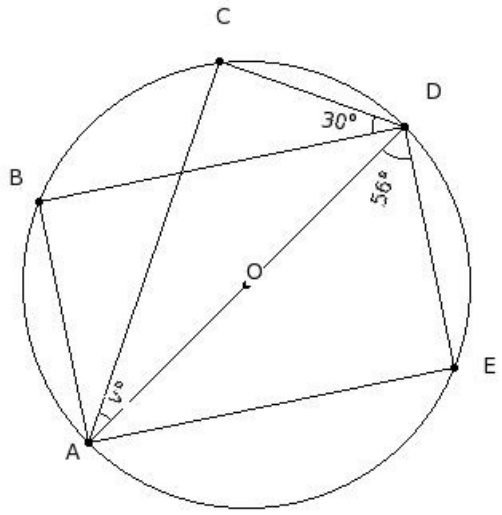
(i) 144° (ii) 129° (iii) 159° (iv) 139° (v) 134°

19. O is the centre of the circle. If ∠CAD = 39° and ∠ACB = 17°, find ∠BAC



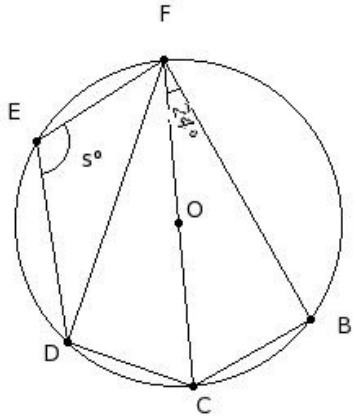
(i) 44° (ii) 34° (iii) 64° (iv) 39° (v) 49°

20. In the given figure, O is the centre of the circle and AD is a diameter. If ∠ADE = 56° and ∠BDC = 30°, find ∠DAC



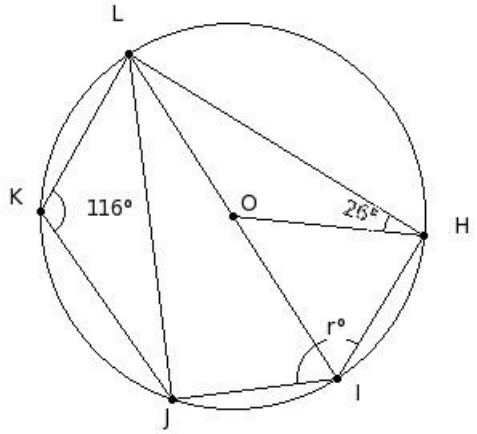
(i) 35° (ii) 25° (iii) 55° (iv) 40° (v) 30°

21. In the given figure, O is the centre of the circle and chord BC is equal to chord CD and CF is a diameter. If ∠BFC = 24°, find ∠FED



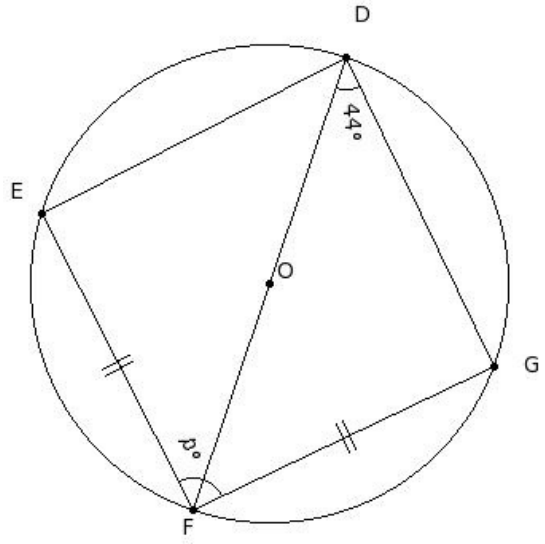
(i) 124° (ii) 144° (iii) 114° (iv) 129° (v) 119°

22. In the given figure, O is the centre of the circle and chord HI is equal to chord IJ and IL is a diameter. If ∠LHO = 26° and ∠JKL = 116°, find ∠HIJ



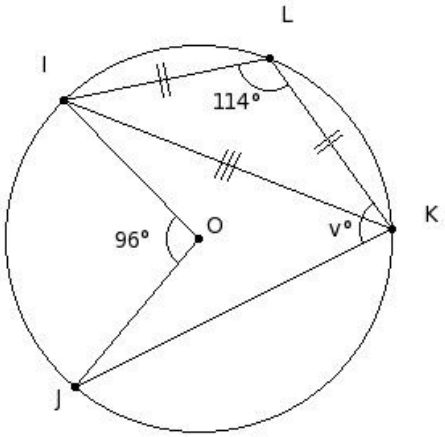
(i) 133° (ii) 128° (iii) 138° (iv) 143° (v) 158°

23. In the given figure, O is the centre of the circle , chord EF is equal to chord FG and DF is a diameter. If ∠GDF = 44° find ∠EFG



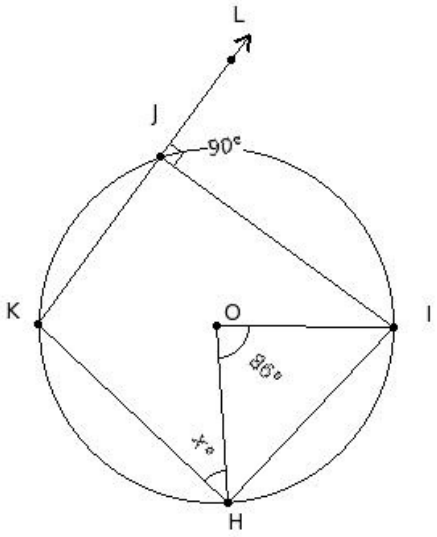
(i) 102° (ii) 92° (iii) 107° (iv) 97° (v) 122°

24. In the given figure, O is the centre of the circle , chord IL is equal to chord LK. If ∠IOJ = 96° and ∠ILK = 114°, find ∠JKL



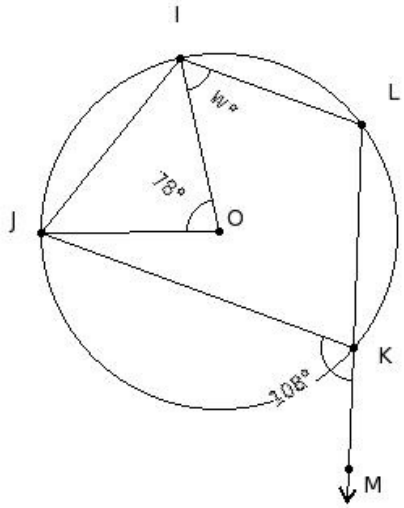
(i) 91° (ii) 81° (iii) 96° (iv) 111° (v) 86°

25. In the given figure, O is the centre of the circle. If ∠HOI = 86° and ∠IJL = 90°, find ∠KHO



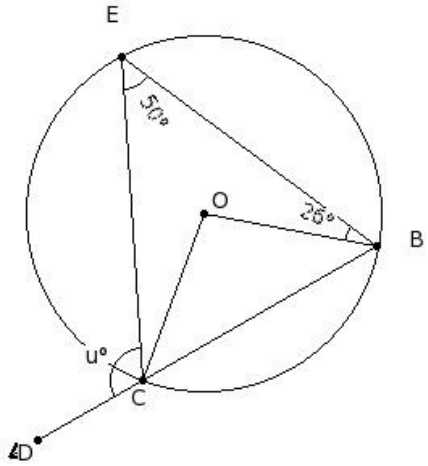
(i) 58° (ii) 73° (iii) 53° (iv) 43° (v) 48°

26. In the given figure, O is the centre of the circle. If ∠IOJ = 78° and ∠JKM = 108°, find ∠LIO



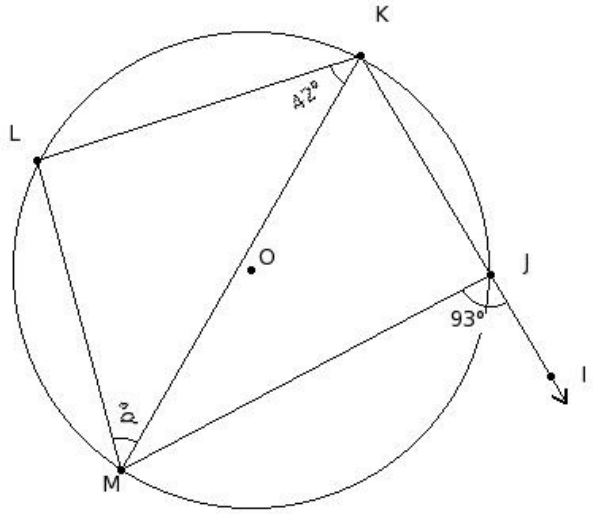
(i) 57° (ii) 67° (iii) 72° (iv) 62° (v) 87°

27. In the given figure, O is the centre of the circle. If ∠BEC = 50° and ∠OBE = 26°, find ∠DCE



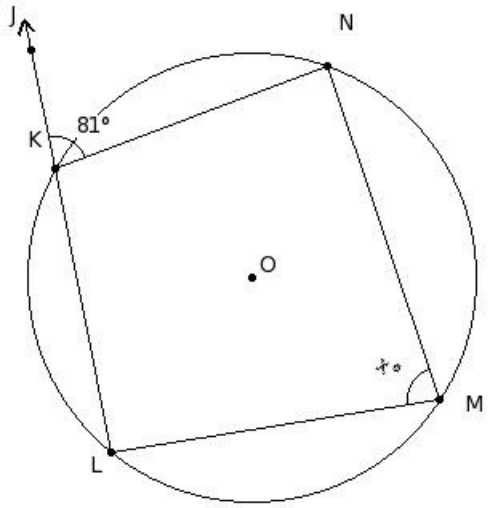
(i) 121° (ii) 131° (iii) 116° (iv) 126° (v) 146°

28. In the given figure, O is the centre of the circle. If ∠MKL = 42° and ∠IJM = 93°, find ∠KML



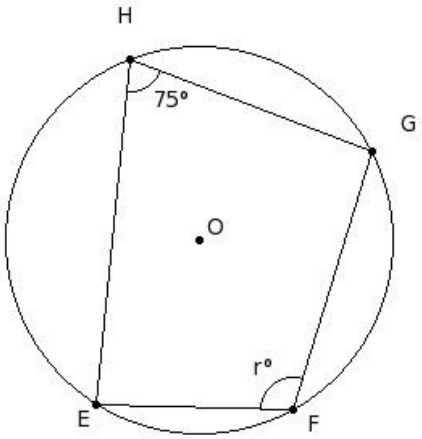
(i) 60° (ii) 75° (iii) 50° (iv) 45° (v) 55°

29. In the given figure, O is the centre of the circle. If ∠JKN = 81°, find ∠LMN



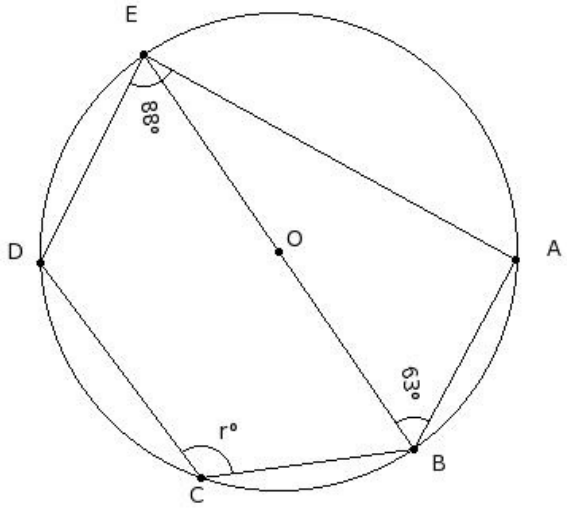
(i) 86° (ii) 96° (iii) 81° (iv) 91° (v) 111°

30. In the given figure, O is the centre of the circle. If ∠GHE = 75°, find ∠EFG



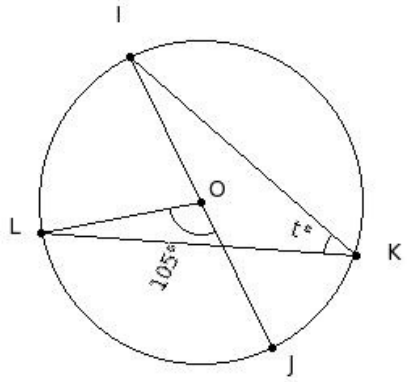
(i) 135° (ii) 110° (iii) 115° (iv) 120° (v) 105°

31. In the given figure, O is the centre of the circle and BE is a diameter. If ∠DEA = 88° and ∠ABE = 63°, find ∠BCD



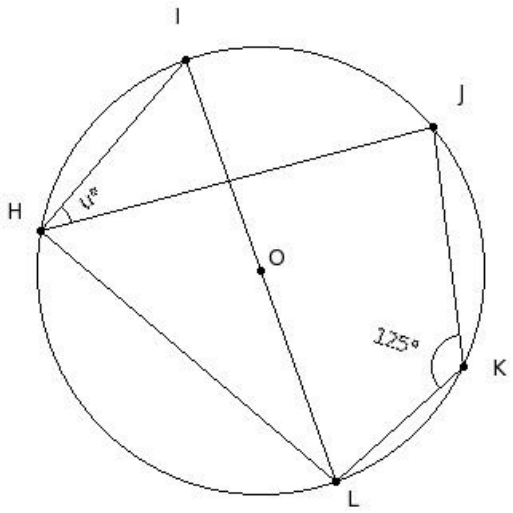
(i) 124° (ii) 149° (iii) 129° (iv) 134° (v) 119°

32. In the given figure, O is the centre of the circle and IJ is a diameter. If ∠JOL = 105°, find ∠IKL



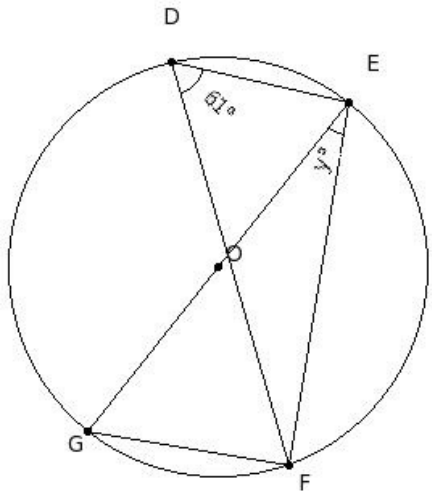
(i) 37.5° (ii) 42.5° (iii) 67.5° (iv) 47.5° (v) 52.5°

33. In the given figure, O is the centre of the circle and IL is a diameter. If ∠JKL = 125°, find ∠JHI



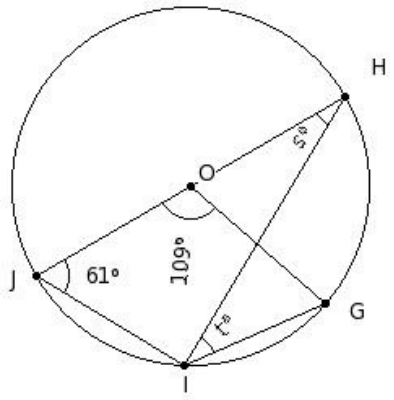
(i) 50° (ii) 65° (iii) 35° (iv) 45° (v) 40°

34. In the given figure, O is the centre of the circle and EG is a diameter. If ∠FDE = 61°, find ∠FEG



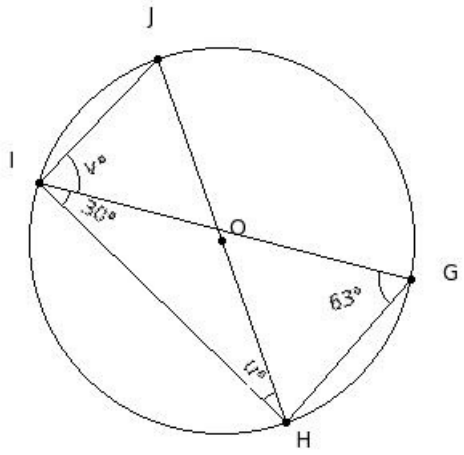
(i) 34° (ii) 39° (iii) 44° (iv) 29° (v) 59°

35. In the given figure, O is the centre of the circle and HJ is a diameter. If ∠GOJ = 109° and ∠OJI = 61°, find ∠HIG + ∠IHJ



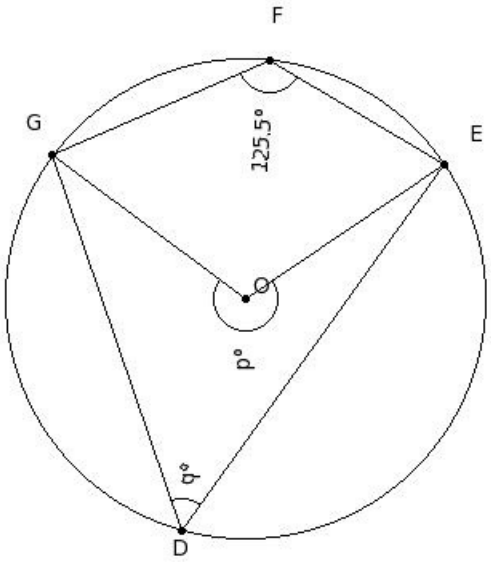
(i) 79.5° (ii) 94.5° (iii) 64.5° (iv) 74.5° (v) 69.5°

36. In the given figure, O is the centre of the circle and HJ is a diameter. If ∠GIH = 30° and ∠HGI = 63°, find ∠JHI + ∠GIJ



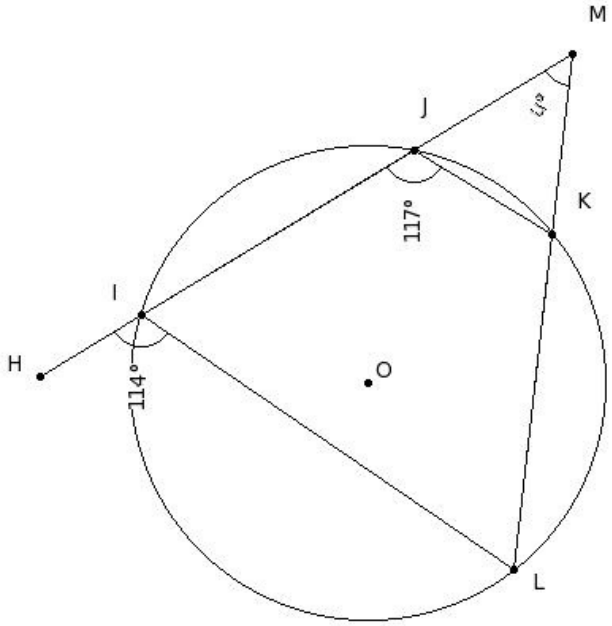
(i) 87° (ii) 117° (iii) 97° (iv) 102° (v) 92°

37. In the given figure, O is the centre of the circle. If ∠EFG = 125.5°, find ∠GOE + ∠EDG



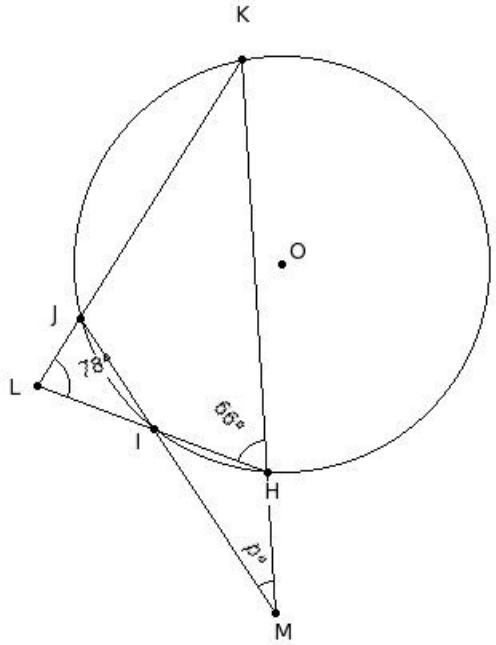
(i) 310.5° (ii) 320.5° (iii) 335.5° (iv) 315.5° (v) 305.5°

38. In the given figure, O is the centre of the circle. If ∠HIL = 114° and ∠IJK = 117°, find ∠JMK



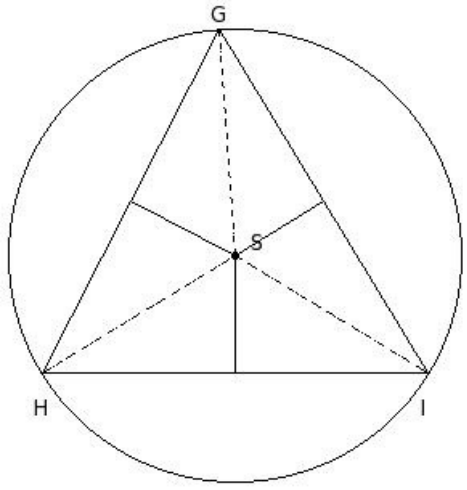
(i) 61° (ii) 66° (iii) 51° (iv) 81° (v) 56°

39. In the given figure, O is the centre of the circle . If ∠ILJ = 78° and ∠IHK = 66°, find ∠HMI



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

40. In the given triangle S is the circumcentre. If SG = 14.10 cm, find the circumference of the circumcircle



(i) 87.6 cm (ii) 89.6 cm (iii) 86.6 cm (iv) 88.6 cm (v) 90.6 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) only similar but not congruent (iii) not similar (iv) concentric

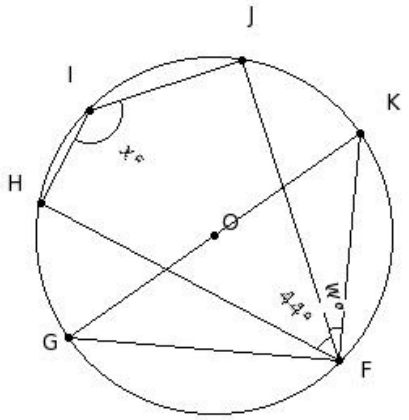
43. If two circles of radii 10 cm and 6 cm touch internally, the distance between their centres is

(i) 4 cm (ii) 3 cm (iii) 6 cm (iv) 2 cm (v) 5 cm

44. If two circles of radii 13 cm and 4 cm touch externally, the distance between their centres is

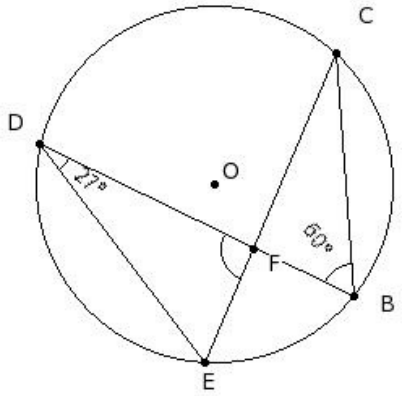
(i) 18 cm (ii) 16 cm (iii) 15 cm (iv) 17 cm (v) 19 cm

45. In the given figure, O is the centre and GK is a diameter of the circle and chord GH is equal to chord JK. If $\angle HFJ = 44°$, find $\angle JFK + \angle HIJ$



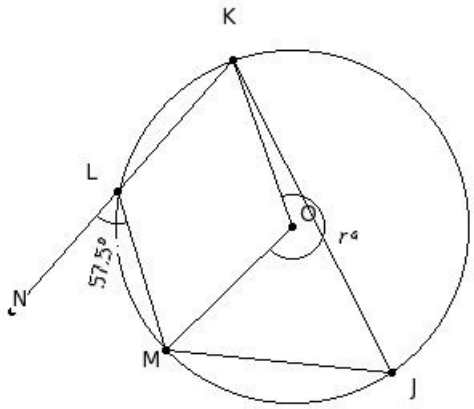
(i) 174° (ii) 189° (iii) 169° (iv) 159° (v) 164°

46. In the given figure, O is the centre of the circle. If $\angle CBD = 60°$ and $\angle BDE = 27°$, find $\angle DFE$



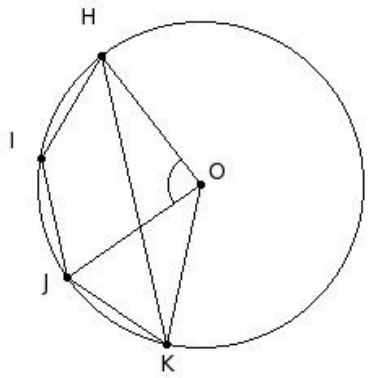
(i) 103° (ii) 123° (iii) 98° (iv) 108° (v) 93°

47. In the given figure, O is the centre of the circle. If ∠NLM = 57.5°, find reflex ∠MOK



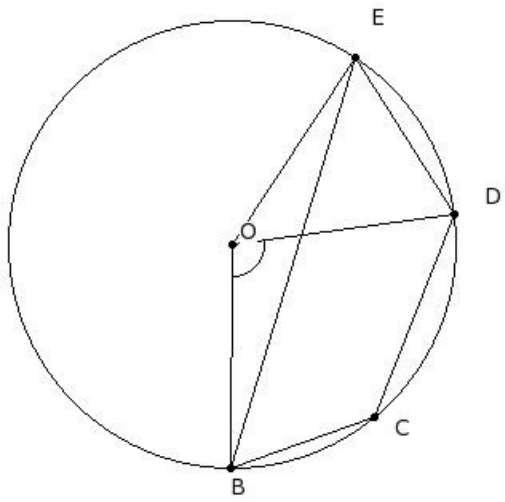
(i) 245° (ii) 275° (iii) 260° (iv) 255° (v) 250°

48. O is the centre of the circle. If Arc HJ = 2 Arc JK and ∠HOJ = 87°, find ∠HKJ



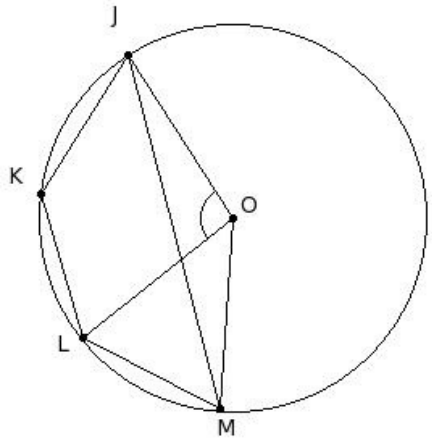
(i) 48.5° (ii) 58.5° (iii) 53.5° (iv) 73.5° (v) 43.5°

49. O is the centre of the circle. If Arc BD = 2 Arc DE and ∠BOD = 98°, find ∠EBD



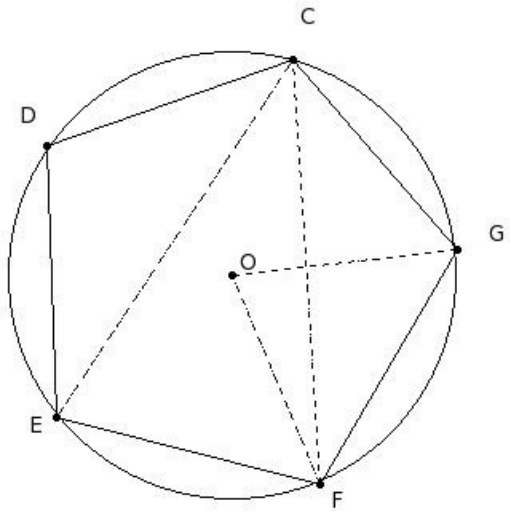
(i) 24.5° (ii) 39.5° (iii) 54.5° (iv) 29.5° (v) 34.5°

50. O is the centre of the circle. If Arc JL = 2 Arc LM and ∠JOL = 96°, find ∠JKL



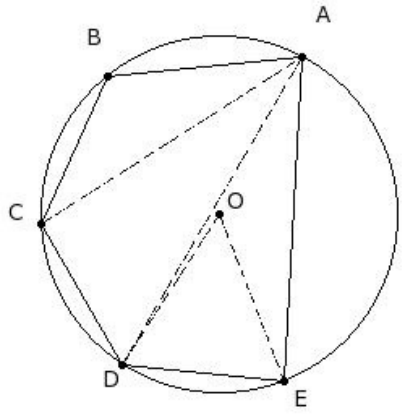
(i) 147° (ii) 137° (iii) 142° (iv) 162° (v) 132°

51. In the given figure, a pentagon is inscribed in a circle with centre O. Given DE = EF = FG and ∠DEF = 106°. Find ∠DCE



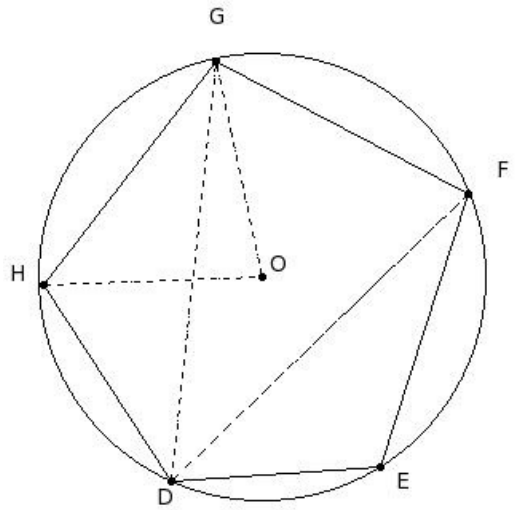
(i) 42° (ii) 47° (iii) 37° (iv) 52° (v) 67°

52. In the given figure, a pentagon is inscribed in a circle with centre O. Given BC = CD = DE and ∠BCD = 126°. Find ∠BAE



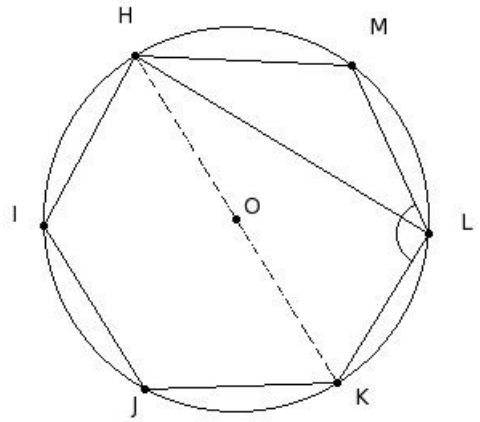
(i) 111° (ii) 86° (iii) 81° (iv) 96° (v) 91°

53. In the given figure, a pentagon is inscribed in a circle with centre O. Given EF = FG = GH and ∠EFG = 100°. Find ∠GOH



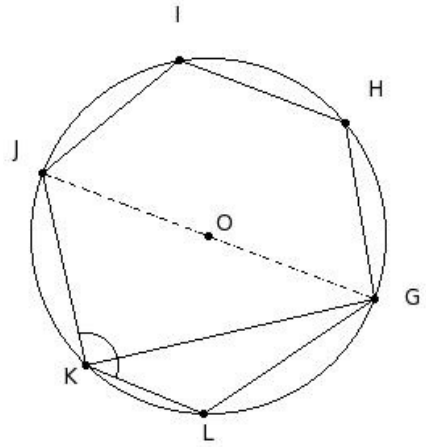
(i) 90° (ii) 85° (iii) 95° (iv) 110° (v) 80°

54. In the given figure, a hexagon is inscribed in a circle with centre O. Given HI = IJ = JK and ∠KLM = 123.93°. Find ∠HLM



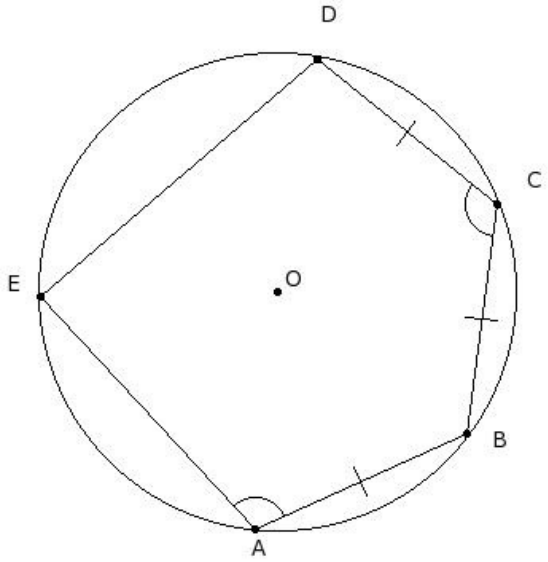
(i) 63.93° (ii) 38.93° (iii) 48.93° (iv) 43.93° (v) 33.93°

55. In the given figure, a hexagon is inscribed in a circle with centre O. Given GH = HI = IJ and ∠JKL = 125.13°. Find ∠LGH



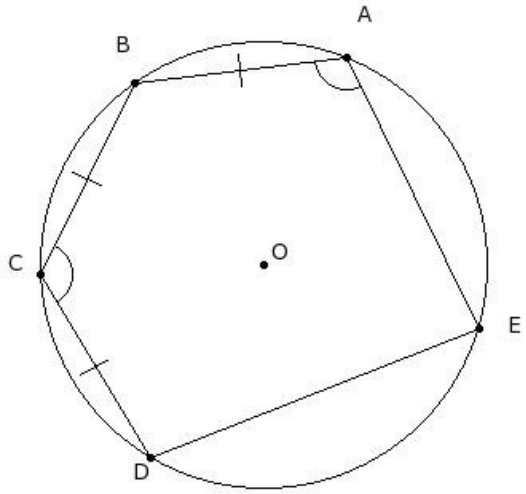
(i) 124.87° (ii) 114.87° (iii) 129.87° (iv) 144.87° (v) 119.87°

56. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 117° and ∠EAB = 109°. Find ∠ABC



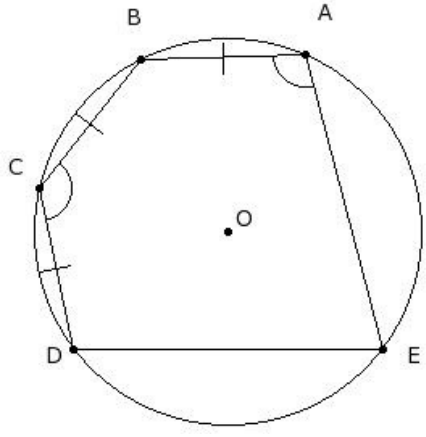
(i) 127° (ii) 117° (iii) 132° (iv) 122° (v) 147°

57. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 115° and ∠EAB = 109°. Find ∠CDE



(i) 118.5° (ii) 108.5° (iii) 113.5° (iv) 103.5° (v) 133.5°

58. In the given figure, a pentagon is inscribed in a circle with centre O. Given AB = BC = CD , ∠BCD = 101° and ∠EAB = 103°. Find ∠AED



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

Assignment Key

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