

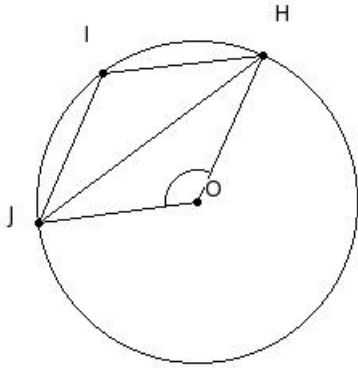
EduSahara™ Learning Center Assignment

Grade : Class X, ICSE

Chapter : Angle Properties of a Circle

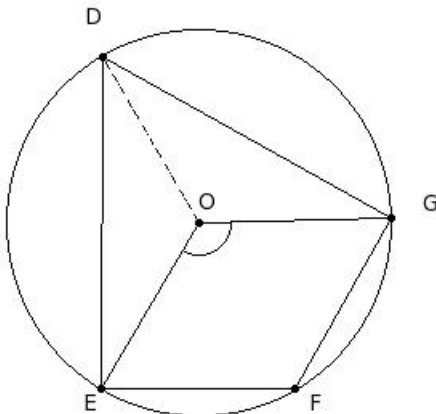
Name : Circles - Angle Properties

1. O is the centre of the circle. If $\angle O = 122^\circ$, find $\angle I$



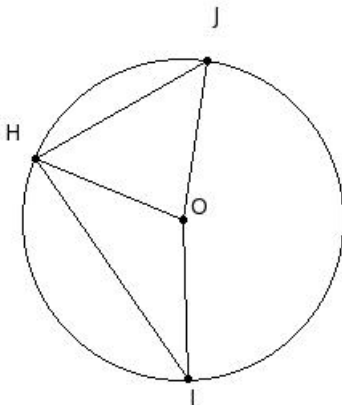
- (i) 129° (ii) 119° (iii) 124° (iv) 149° (v) 134°

2. O is the centre of the circle. If $\angle EOG = 122^\circ$, find $\angle D$



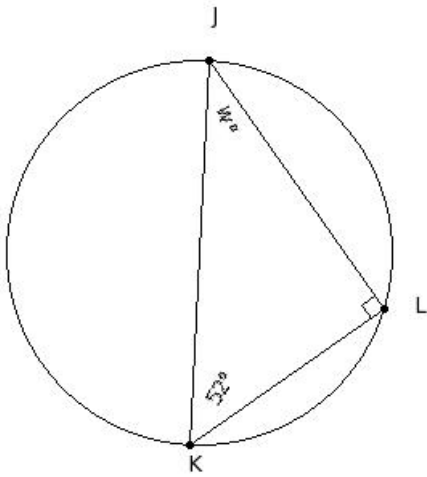
- (i) 91° (ii) 66° (iii) 76° (iv) 71° (v) 61°

3. O is the centre of the circle. If $\angle IOH = 114^\circ$ and $\angle JOH = 76^\circ$, find $\angle IHJ$



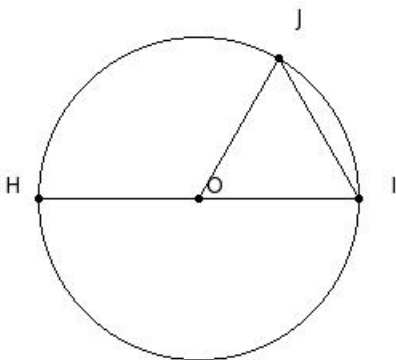
- (i) 90° (ii) 100° (iii) 115° (iv) 95° (v) 85°

4. Find the missing angle in the following figure?



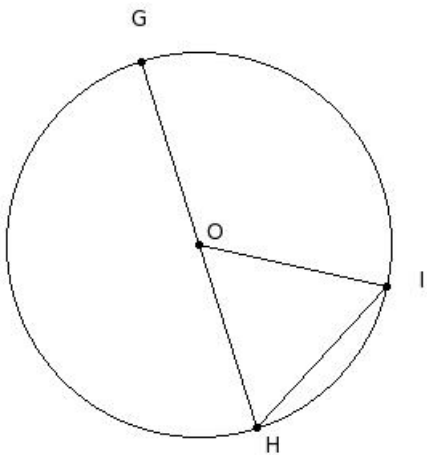
- (i) 53° (ii) 48° (iii) 38° (iv) 43° (v) 68°

5. O is the centre of the circle and $OJ = IJ$. Find $\angle IOJ$



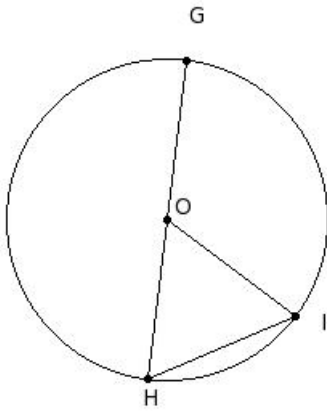
- (i) 60° (ii) 70° (iii) 90° (iv) 65° (v) 75°

6. O is the centre of the circle and $OI = HI$. Find $\angle IOG$



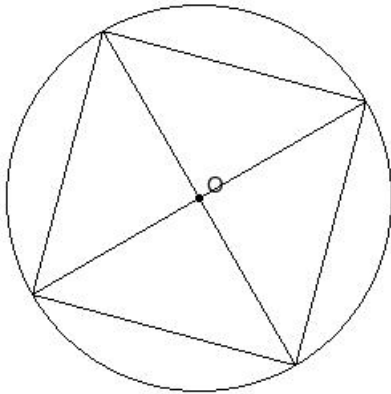
- (i) 125° (ii) 150° (iii) 120° (iv) 135° (v) 130°

7. O is the centre of the circle and $OI = HI$. Find reflex $\angle IOG$



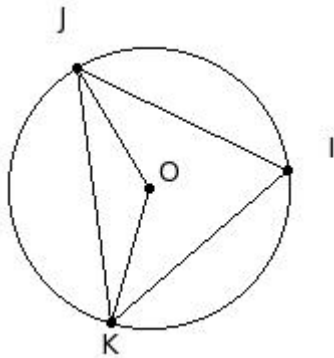
- (i) 245° (ii) 250° (iii) 240° (iv) 270° (v) 255°

8. Find the side of the square in the following figure if the radius of the circle is 12.00 cm.



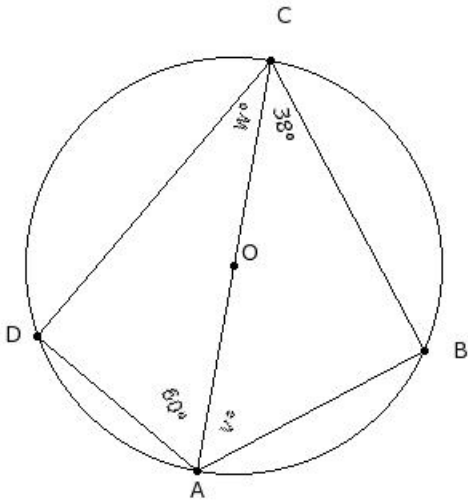
- (i) 15.97 cm (ii) 16.97 cm (iii) 17.97 cm (iv) 18.97 cm (v) 14.97 cm

9. O is the centre of the circle. If $\angle I + \angle JOK = 199.5^\circ$, find $\angle JOK$



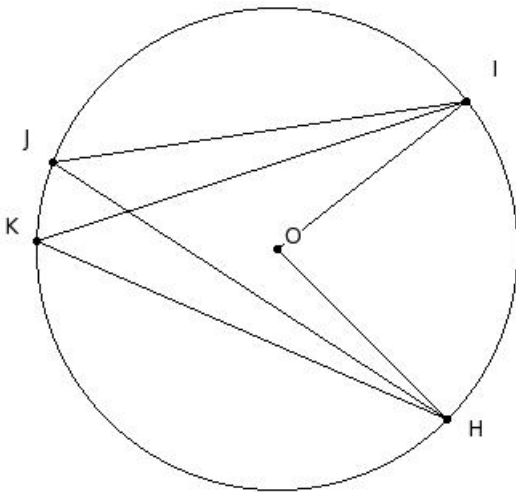
- (i) 163° (ii) 143° (iii) 133° (iv) 138° (v) 148°

10. O is the centre of the circle. If $\angle ACB = 38^\circ$ and $\angle CAD = 60^\circ$, find v° , w°



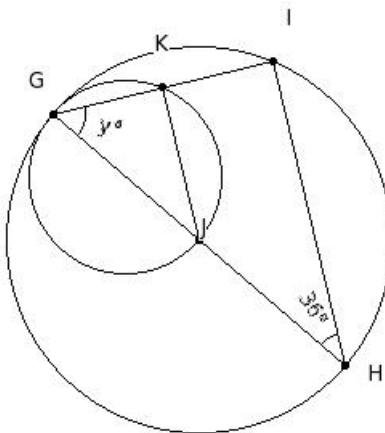
- (i) $52^\circ, 30^\circ$ (ii) $20^\circ, 52^\circ$ (iii) $30^\circ, 52^\circ$ (iv) $40^\circ, 62^\circ$ (v) $60^\circ, 72^\circ$

11. O is the centre of the circle. If $\angle HOI = 83^\circ$, find the angle $\angle J$



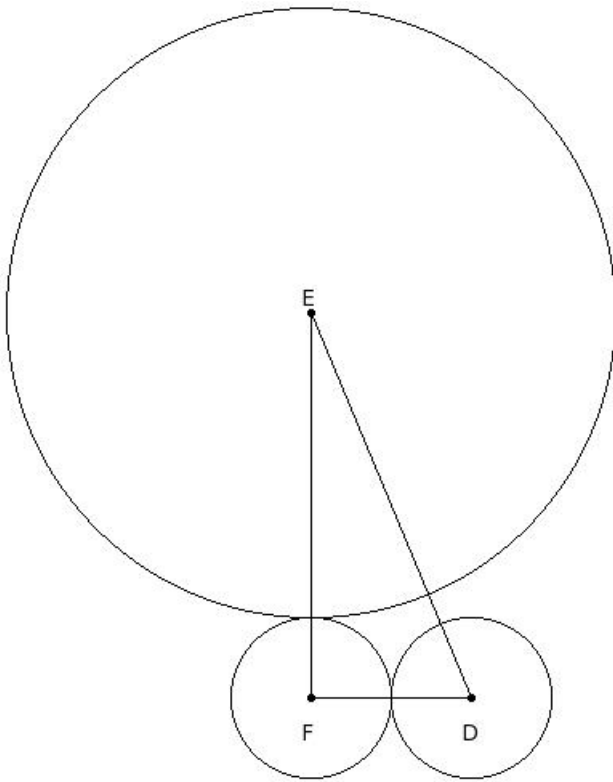
- (i) 46.5° (ii) 71.5° (iii) 51.5° (iv) 56.5° (v) 41.5°

12. Two circles touch internally. J is the centre of the bigger circle and lies on the smaller circle. If $\angle GHI = 36^\circ$, find $\angle G$



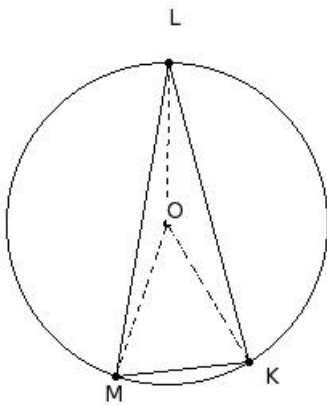
- (i) 64° (ii) 59° (iii) 54° (iv) 69° (v) 84°

13. 'D' and 'E' are centres of circles of radii 5 cm and 19 cm such that $DE = 26$ cm and 'F' is the centre of the circle of radius 'r' cm which touches the above circles externally. If $\angle DFE = 90^\circ$, find 'r'



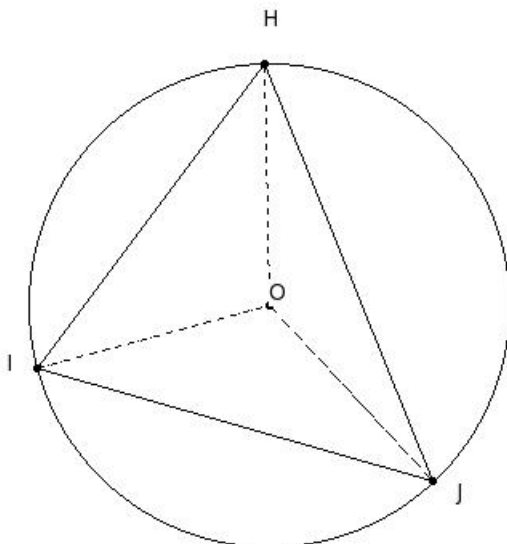
- (i) 6 cm (ii) 3 cm (iii) 7 cm (iv) 4 cm (v) 5 cm

14. $\triangle KLM$ is inscribed in a circle with centre O. If $\angle KOL = 149^\circ$ and $\angle LOM = 162^\circ$, find $\angle MKL$



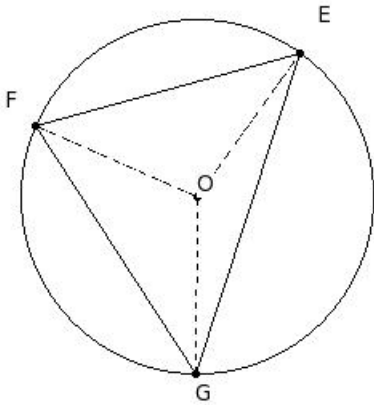
- (i) 111° (ii) 81° (iii) 91° (iv) 96° (v) 86°

15. $\triangle HIJ$ is inscribed in a circle with centre O. If $\angle HOI = 104^\circ$ and $\angle IOJ = 118^\circ$, find $\angle HIJ$



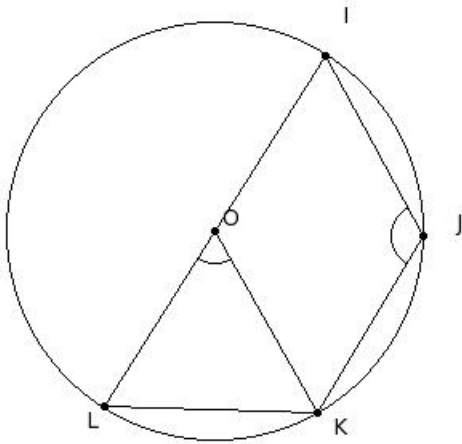
- (i) 79° (ii) 84° (iii) 74° (iv) 99° (v) 69°

16. $\triangle EFG$ is inscribed in a circle with centre O. If $\angle EOF = 102^\circ$ and $\angle FOG = 113^\circ$, find $\angle FGE$



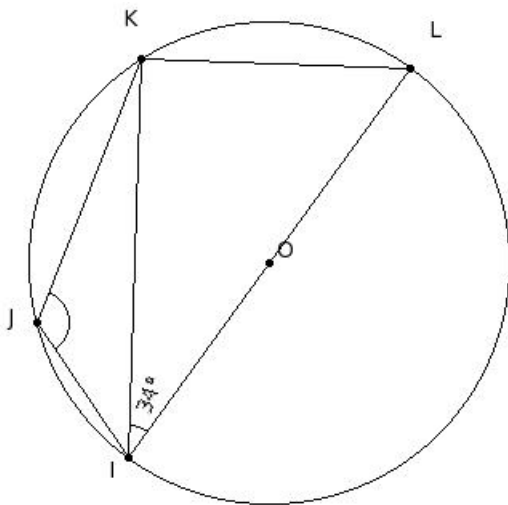
- (i) 61° (ii) 51° (iii) 66° (iv) 56° (v) 81°

17. O is the centre of the circle. If $\angle IJK = 121^\circ$, find $\angle KOL$



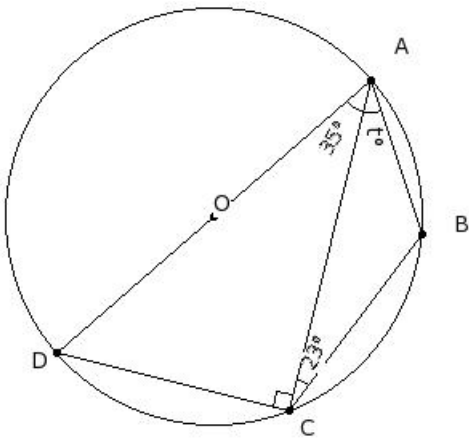
- (i) 72° (ii) 92° (iii) 77° (iv) 67° (v) 62°

18. O is the centre of the circle and $\angle LIK = 34^\circ$, find $\angle IJK$



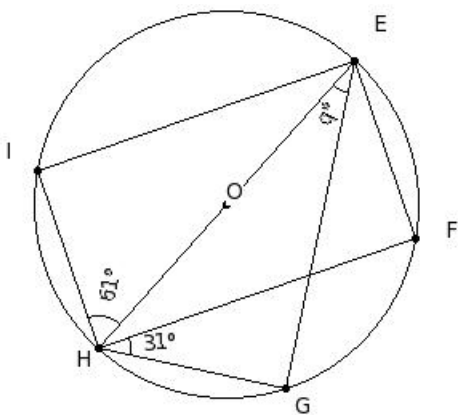
- (i) 134° (ii) 154° (iii) 124° (iv) 139° (v) 129°

19. O is the centre of the circle. If $\angle CAD = 35^\circ$ and $\angle ACB = 23^\circ$, find $\angle BAC$



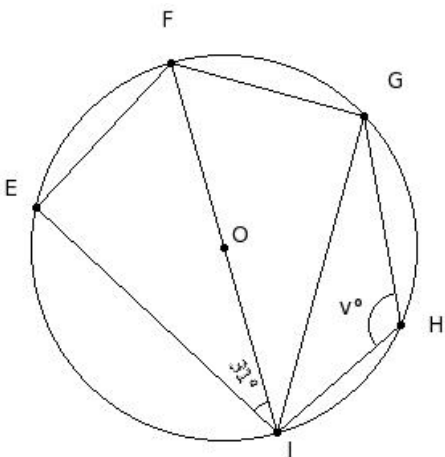
- (i) 62° (ii) 32° (iii) 37° (iv) 42° (v) 47°

20. In the given figure, O is the centre of the circle and EH is a diameter. If $\angle EHI = 61^\circ$ and $\angle FHG = 31^\circ$, find $\angle HEG$



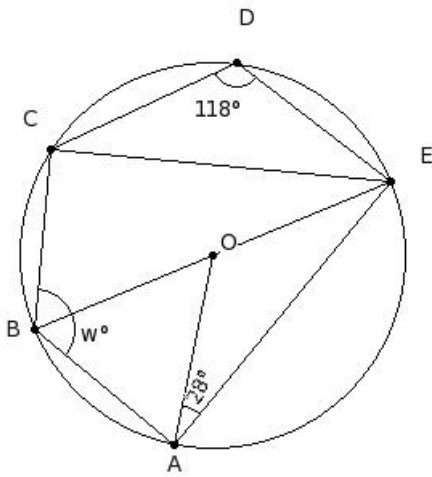
- (i) 35° (ii) 60° (iii) 40° (iv) 45° (v) 30°

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 $\angle EIF = 31^\circ$, find $\angle IHG$



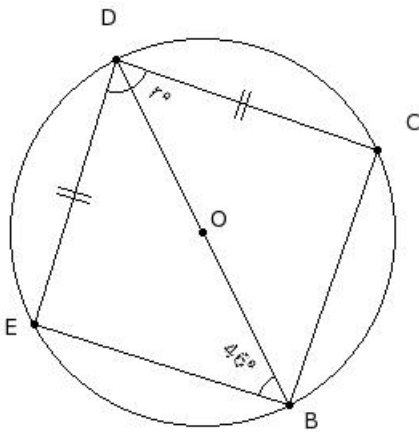
- (i) 131° (ii) 126° (iii) 151° (iv) 121° (v) 136°

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 $\angle EAO = 28^\circ$ and $\angle CDE = 118^\circ$, find $\angle ABC$



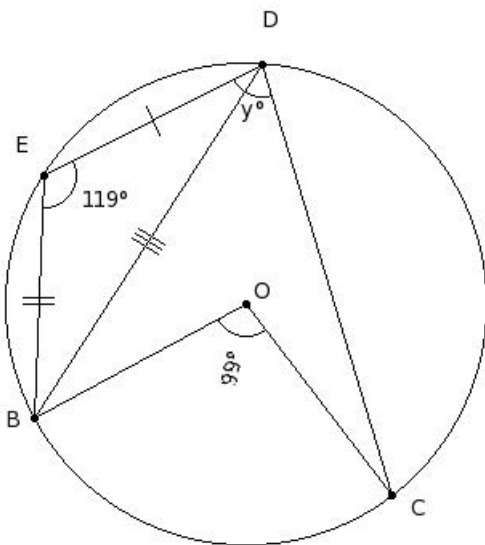
- (i) 124° (ii) 129° (iii) 154° (iv) 139° (v) 134°

23. In the given figure, O is the centre of the circle, chord CD is equal to chord DE and BD is a diameter. If $\angle EBD = 46^\circ$ find $\angle CDE$



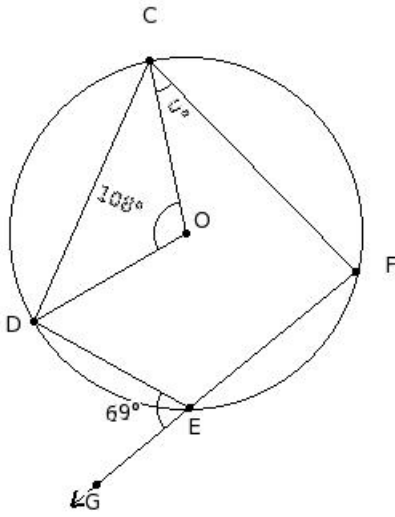
- (i) 103° (ii) 98° (iii) 88° (iv) 118° (v) 93°

24. In the given figure, O is the centre of the circle, chord BE is equal to chord ED. If $\angle BOC = 99^\circ$ and $\angle BED = 119^\circ$, find $\angle CDE$



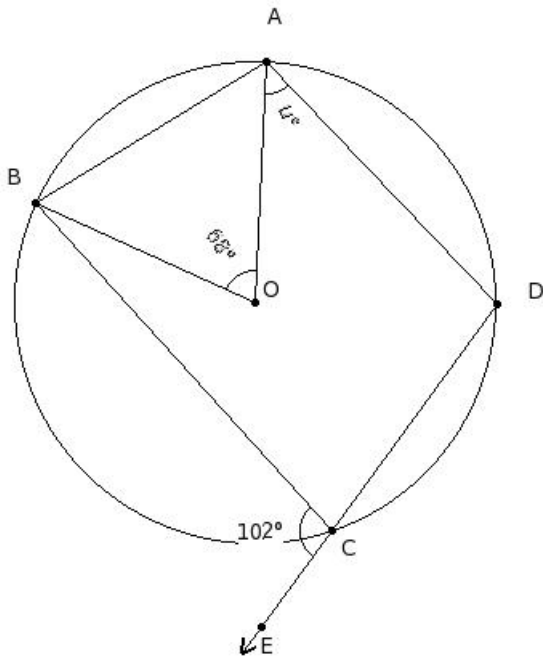
- (i) 85° (ii) 80° (iii) 110° (iv) 95° (v) 90°

25. In the given figure, O is the centre of the circle. If $\angle COD = 108^\circ$ and $\angle DEG = 69^\circ$, find $\angle FCO$



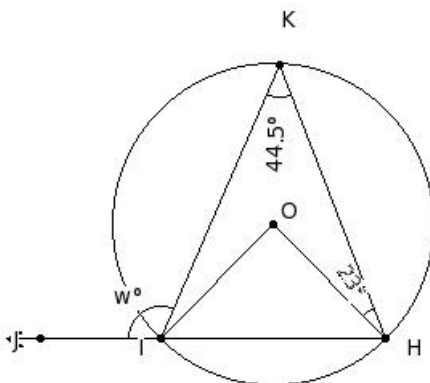
- (i) 63° (ii) 33° (iii) 48° (iv) 43° (v) 38°

26. In the given figure, O is the centre of the circle. If $\angle AOB = 68^\circ$ and $\angle BCE = 102^\circ$, find $\angle DAO$



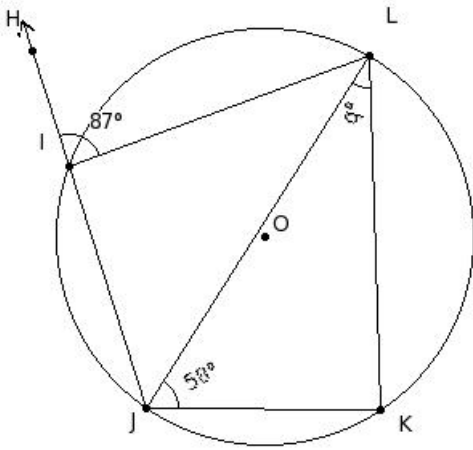
- (i) 61° (ii) 46° (iii) 76° (iv) 56° (v) 51°

27. In the given figure, O is the centre of the circle. If $\angle HKI = 44.5^\circ$ and $\angle OHK = 23^\circ$, find $\angle JIK$



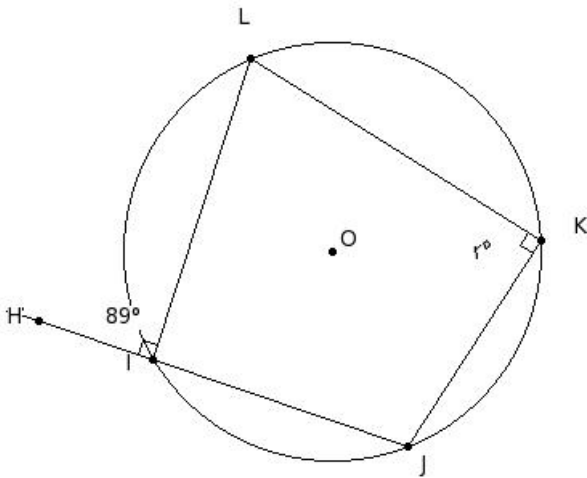
- (i) 118° (ii) 113° (iii) 128° (iv) 143° (v) 123°

28. In the given figure, O is the centre of the circle. If $\angle LJK = 58^\circ$ and $\angle HIL = 87^\circ$, find $\angle JLK$



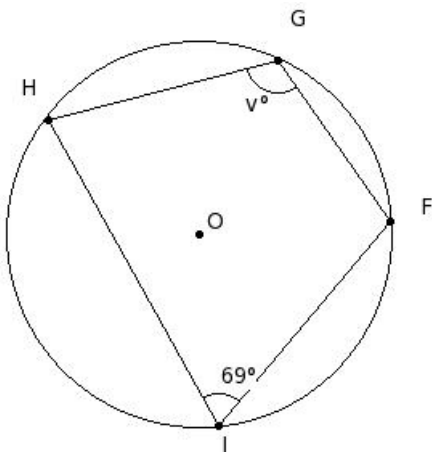
- (i) 40° (ii) 45° (iii) 50° (iv) 35° (v) 65°

29. In the given figure, O is the centre of the circle. If $\angle HIL = 89^\circ$, find $\angle JKL$



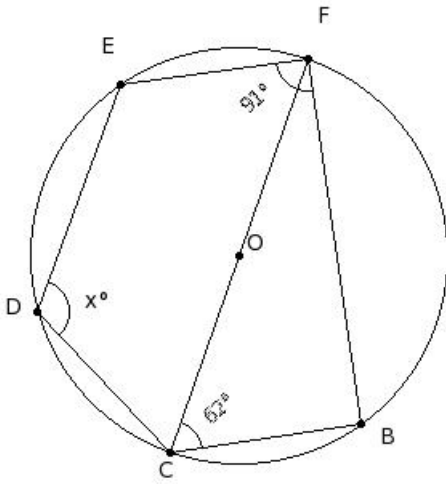
- (i) 99° (ii) 119° (iii) 89° (iv) 104° (v) 94°

30. In the given figure, O is the centre of the circle. If $\angle HIF = 69^\circ$, find $\angle FGH$



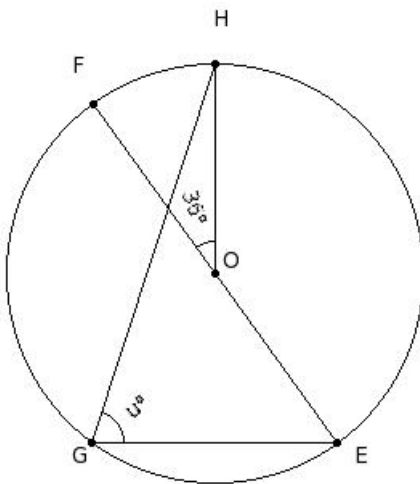
- (i) 126° (ii) 121° (iii) 111° (iv) 116° (v) 141°

31. In the given figure, O is the centre of the circle and CF is a diameter. If $\angle EFB = 91^\circ$ and $\angle BCF = 62^\circ$, find $\angle CDE$



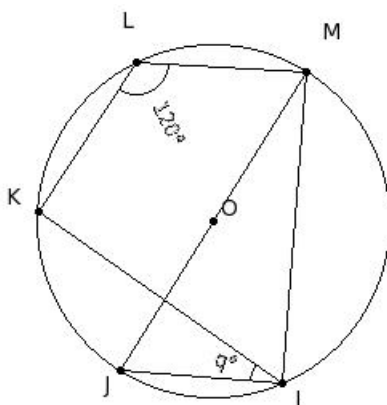
- (i) 127° (ii) 117° (iii) 132° (iv) 122° (v) 147°

32. In the given figure, O is the centre of the circle and EF is a diameter. If $\angle FOH = 36^\circ$, find $\angle EGH$



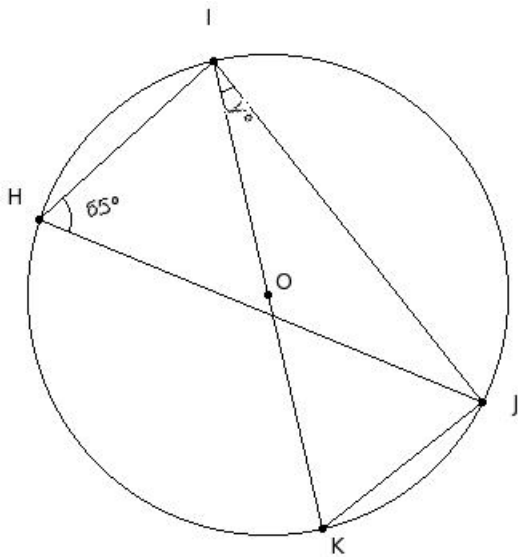
- (i) 82° (ii) 102° (iii) 87° (iv) 77° (v) 72°

33. In the given figure, O is the centre of the circle and JM is a diameter. If $\angle KLM = 120^\circ$, find $\angle KIJ$



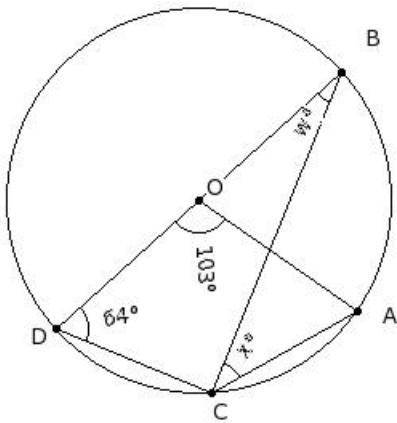
- (i) 40° (ii) 35° (iii) 60° (iv) 30° (v) 45°

34. In the given figure, O is the centre of the circle and IK is a diameter. If $\angle JHI = 65^\circ$, find $\angle JIK$



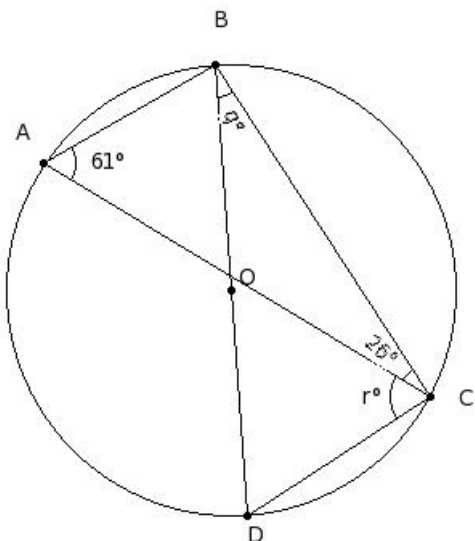
- (i) 40° (ii) 30° (iii) 25° (iv) 55° (v) 35°

35. In the given figure, O is the centre of the circle and BD is a diameter. If $\angle AOD = 103^\circ$ and $\angle ODC = 64^\circ$, find $\angle BCA + \angle CBD$



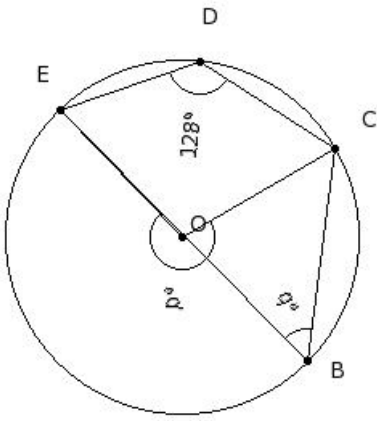
- (i) 64.5° (ii) 74.5° (iii) 69.5° (iv) 79.5° (v) 94.5°

36. In the given figure, O is the centre of the circle and BD is a diameter. If $\angle ACB = 26^\circ$ and $\angle BAC = 61^\circ$, find $\angle DBC + \angle ACD$



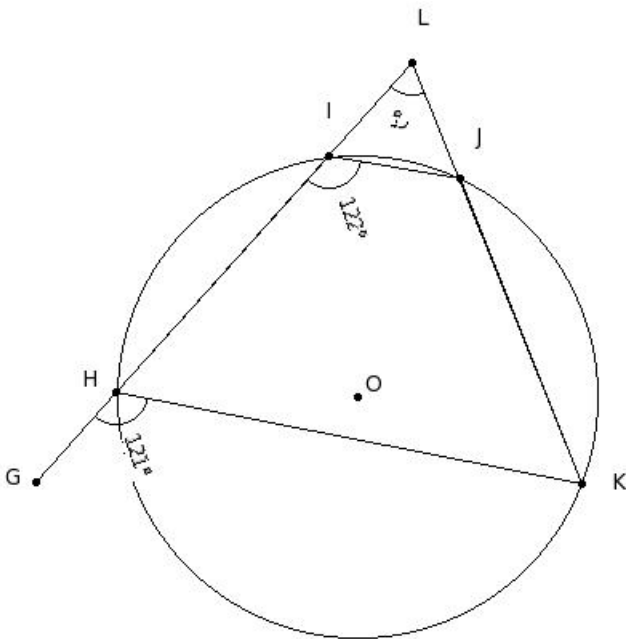
- (i) 108° (ii) 98° (iii) 103° (iv) 93° (v) 123°

37. In the given figure, O is the centre of the circle. If $\angle CDE = 128^\circ$, find $\angle EOC + \angle CBE$



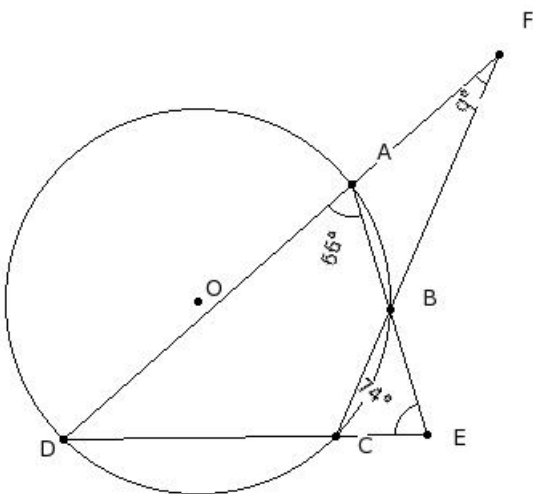
- (i) 308° (ii) 338° (iii) 323° (iv) 318° (v) 313°

38. In the given figure, O is the centre of the circle. If $\angle GHK = 121^\circ$ and $\angle HIJ = 122^\circ$, find $\angle ILJ$



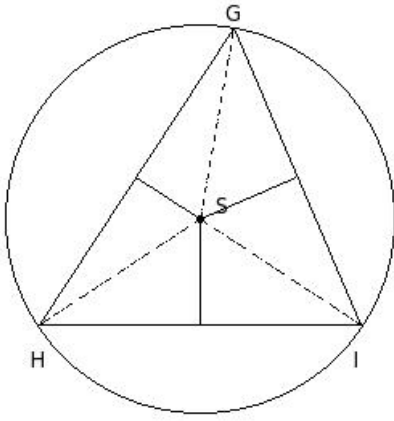
- (i) 68° (ii) 93° (iii) 63° (iv) 78° (v) 73°

39. In the given figure, O is the centre of the circle. If $\angle BEC = 74^\circ$ and $\angle BAD = 66^\circ$, find $\angle AFB$



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

40. In the given triangle S is the circumcentre. If $SG = 12.10$ cm, find the circumference of the circumcircle



- (i) 78.1 cm (ii) 75.1 cm (iii) 76.1 cm (iv) 74.1 cm (v) 77.1 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) concentric
(ii) not similar
(iii) only similar but not congruent
(iv) congruent

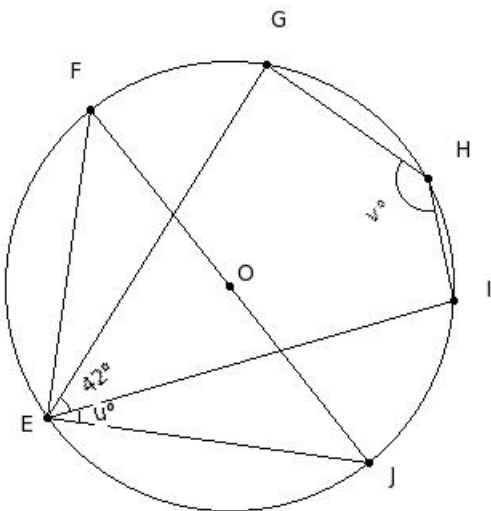
43. If two circles of radii 14 cm and 2 cm touch internally, the distance between their centres is

- (i) 10 cm (ii) 14 cm (iii) 13 cm (iv) 12 cm (v) 11 cm

44. If two circles of radii 12 cm and 4 cm touch externally, the distance between their centres is

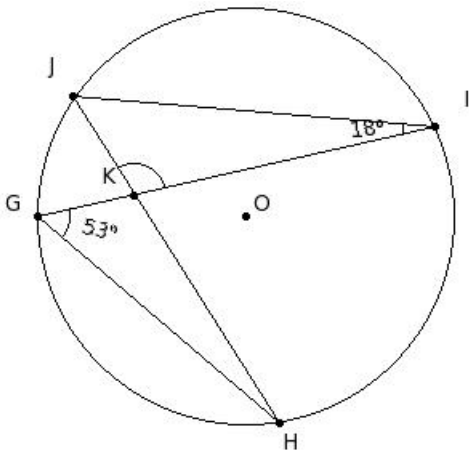
- (i) 18 cm (ii) 14 cm (iii) 17 cm (iv) 16 cm (v) 15 cm

45. In the given figure, O is the centre and FJ is a diameter of the circle and chord FG is equal to chord IJ . If $\angle GEI = 42^\circ$, find $\angle IEJ + \angle GHI$



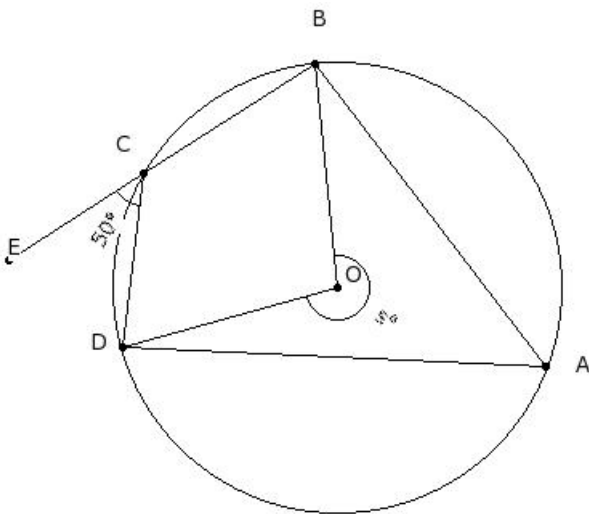
- (i) 162° (ii) 167° (iii) 172° (iv) 177° (v) 192°

46. In the given figure, O is the centre of the circle. If $\angle HGI = 53^\circ$ and $\angle GIJ = 18^\circ$, find $\angle IKJ$



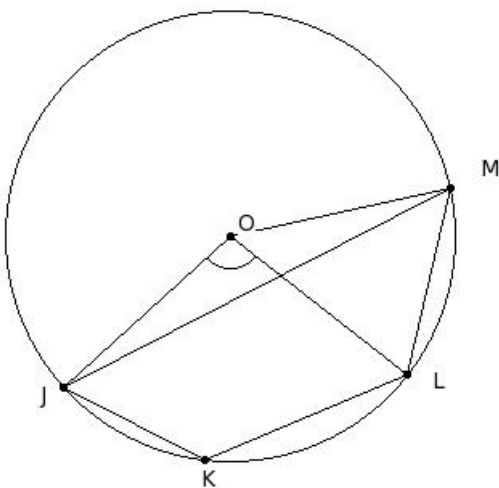
- (i) 139° (ii) 124° (iii) 119° (iv) 109° (v) 114°

47. In the given figure, O is the centre of the circle. If $\angle ECD = 50^\circ$, find reflex $\angle DOB$



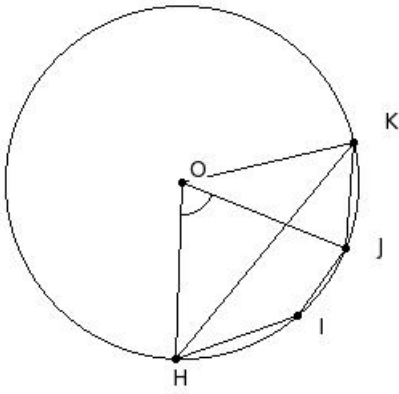
- (i) 275° (ii) 270° (iii) 260° (iv) 265° (v) 290°

48. O is the centre of the circle. If Arc JL = 2 Arc LM and $\angle JOL = 100^\circ$, find $\angle JML$



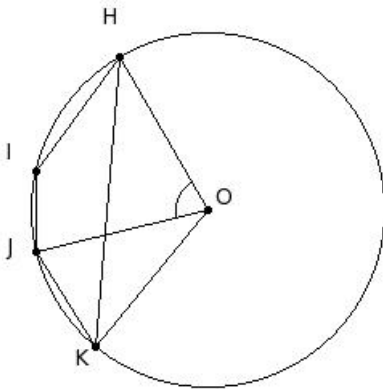
- (i) 60° (ii) 55° (iii) 65° (iv) 80° (v) 50°

49. O is the centre of the circle. If Arc HJ = 2 Arc JK and $\angle HOJ = 70^\circ$, find $\angle KHJ$



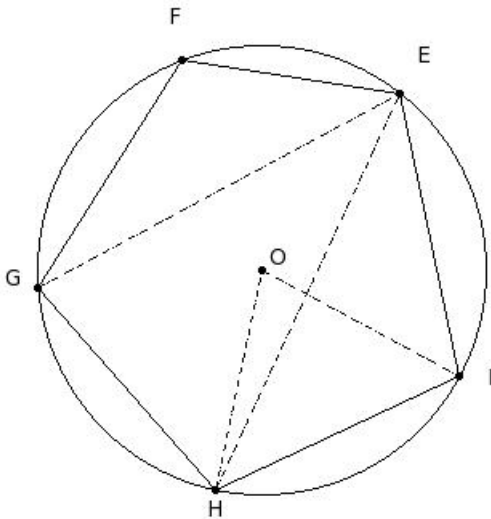
- (i) 47.5° (ii) 27.5° (iii) 17.5° (iv) 22.5° (v) 32.5°

50. O is the centre of the circle. If Arc HJ = 2 Arc JK and $\angle HOJ = 74^\circ$, find $\angle HIJ$



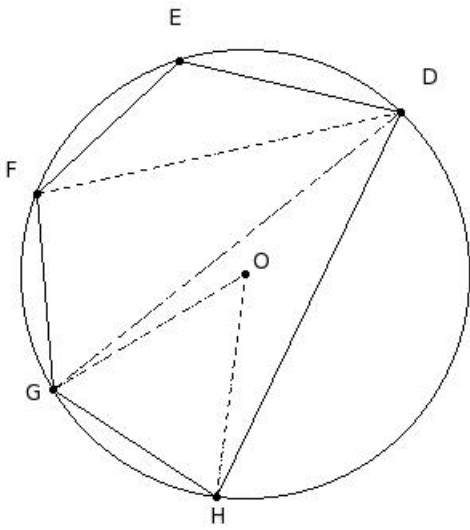
- (i) 173° (ii) 158° (iii) 148° (iv) 143° (v) 153°

51. In the given figure, a pentagon is inscribed in a circle with centre O. Given $FG = GH = HI$ and $\angle FGH = 106^\circ$. Find $\angle FEG$



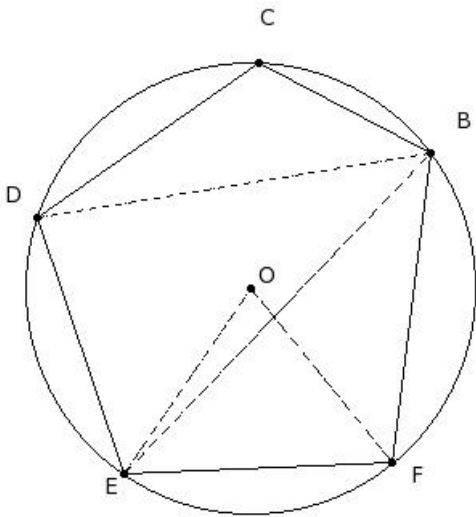
- (i) 37° (ii) 52° (iii) 67° (iv) 42° (v) 47°

52. In the given figure, a pentagon is inscribed in a circle with centre O. Given $EF = FG = GH$ and $\angle EFG = 128^\circ$. Find $\angle EDH$



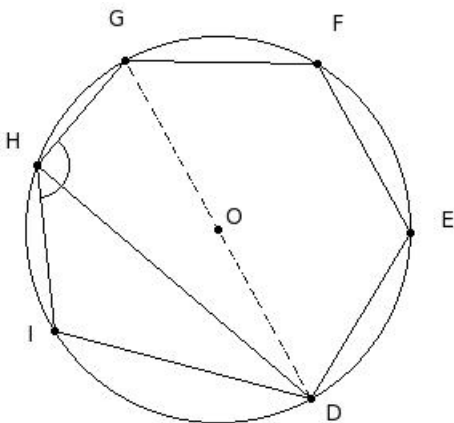
- (i) 93° (ii) 78° (iii) 88° (iv) 108° (v) 83°

53. In the given figure, a pentagon is inscribed in a circle with centre O. Given $CD = DE = EF$ and $\angle CDE = 106^\circ$. Find $\angle EOF$



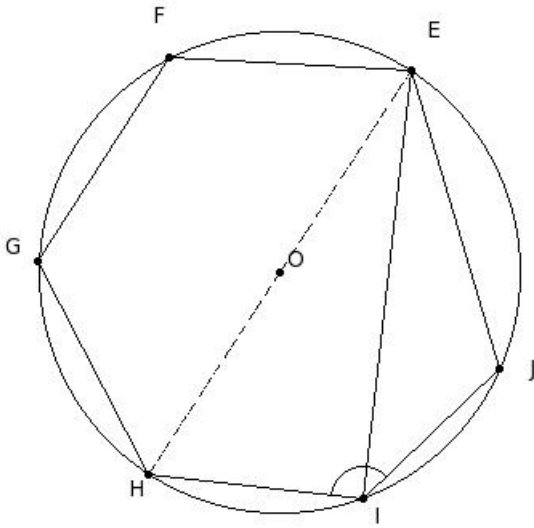
- (i) 84° (ii) 104° (iii) 79° (iv) 74° (v) 89°

54. In the given figure, a hexagon is inscribed in a circle with centre O. Given $DE = EF = FG$ and $\angle GHI = 133.67^\circ$. Find $\angle DHI$



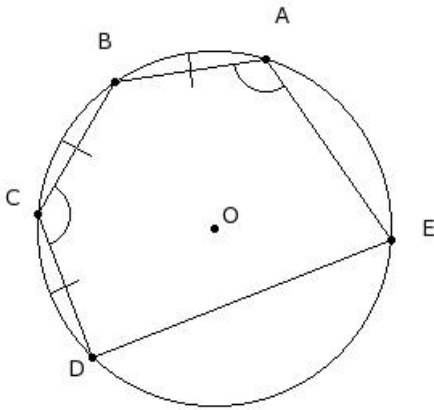
- (i) 58.67° (ii) 53.67° (iii) 73.67° (iv) 43.67° (v) 48.67°

55. In the given figure, a hexagon is inscribed in a circle with centre O. Given $EF = FG = GH$ and $\angle HIJ = 130^\circ$. Find $\angle JEF$



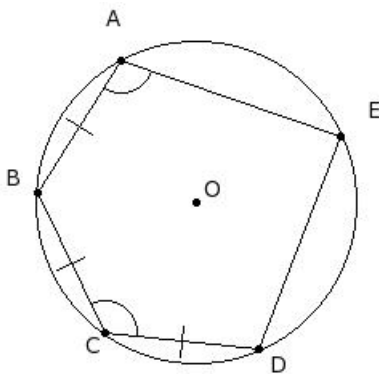
- (i) 110° (ii) 140° (iii) 125° (iv) 115° (v) 120°

56. In the given figure, a pentagon is inscribed in a circle with centre O. Given $AB = BC = CD$, $\angle BCD = 102^\circ$ and $\angle EAB = 116^\circ$. Find $\angle ABC$



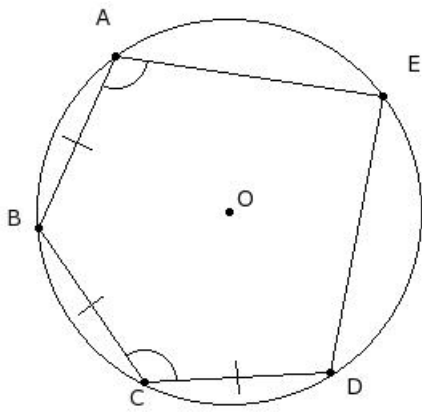
- (i) 107° (ii) 102° (iii) 117° (iv) 112° (v) 132°

57. In the given figure, a pentagon is inscribed in a circle with centre O. Given $AB = BC = CD$, $\angle BCD = 117^\circ$ and $\angle EAB = 104^\circ$. Find $\angle CDE$



- (i) 107.5° (ii) 122.5° (iii) 137.5° (iv) 117.5° (v) 112.5°

58. In the given figure, a pentagon is inscribed in a circle with centre O. Given $AB = BC = CD$, $\angle BCD = 117^\circ$ and $\angle EAB = 106^\circ$. Find $\angle AED$



- (i) 109.5° (ii) 94.5° (iii) 124.5° (iv) 104.5° (v) 99.5°
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Assignment Key

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

56) (ii)

57) (i)

58) (ii)