EduSahara™ Assignment

Name : Circles - Tangent Properties

Chapter : Circles

Grade : CBSE Grade X

1. 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) $d > R - r$

2. The angle between a tangent to a circle and the radius drawn at the point of contact is

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

3. If two circles of radii 11 cm and 4 cm touch externally, the distance between their centres is

   (i) 17 cm (ii) 14 cm (iii) 13 cm (iv) 15 cm (v) 16 cm

4. If two circles touch internally, the number of their common tangents is

   (i) (-2) (ii) 0 (iii) 1 (iv) 2 (v) 3

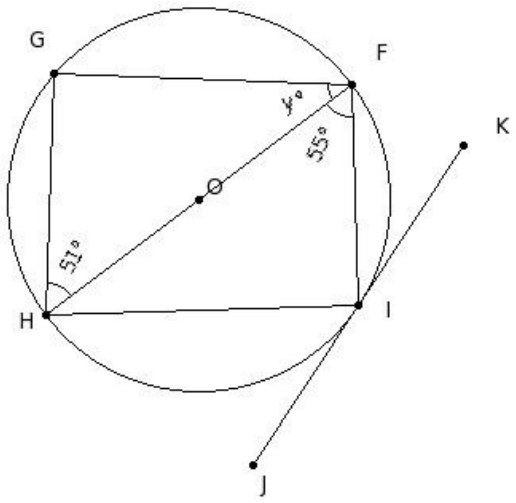
5. If two circles intersect, the number of their common tangents is

   (i) 2 (ii) 1 (iii) 3 (iv) 4 (v) (-1)

6. If two circles touch externally, the number of their common tangents is

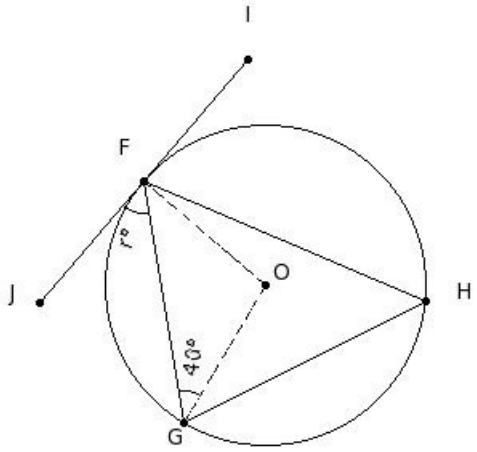
   (i) 2 (ii) 0 (iii) 6 (iv) 4 (v) 3

7. In the given figure, O is the centre of the circle and JK is the tangent at I. If ∠HFI = 55° and ∠FHG = 51°, find ∠HFG



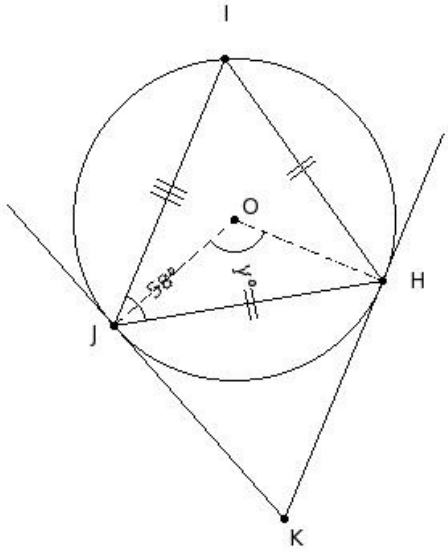
   (i) 49° (ii) 44° (iii) 69° (iv) 39° (v) 54°

8. In the given figure, O is the centre of the circle and IJ is the tangent at F. If ∠OGF = 40°, find ∠JFG



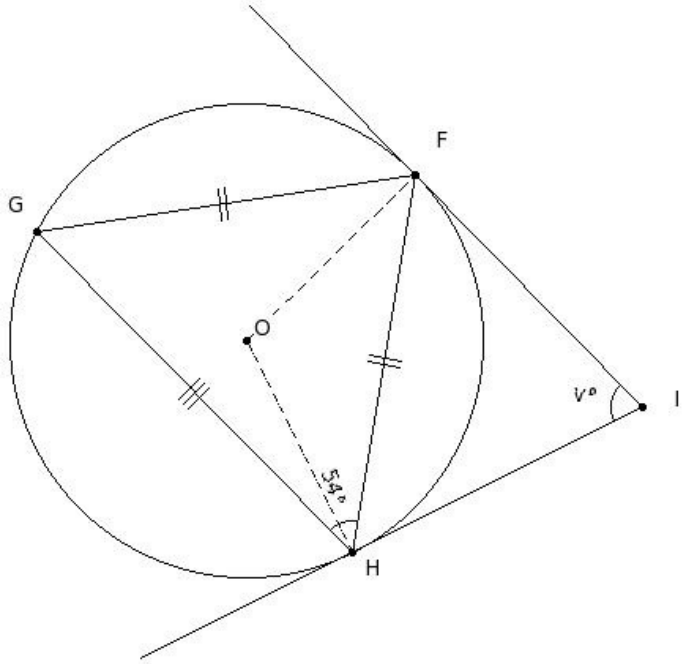
(i) 55° (ii) 80° (iii) 65° (iv) 50° (v) 60°

9. In the given figure, O is the centre of the circle and the tangents HK and JK meet at point K. If ∠IJH = 58°, find ∠HOJ



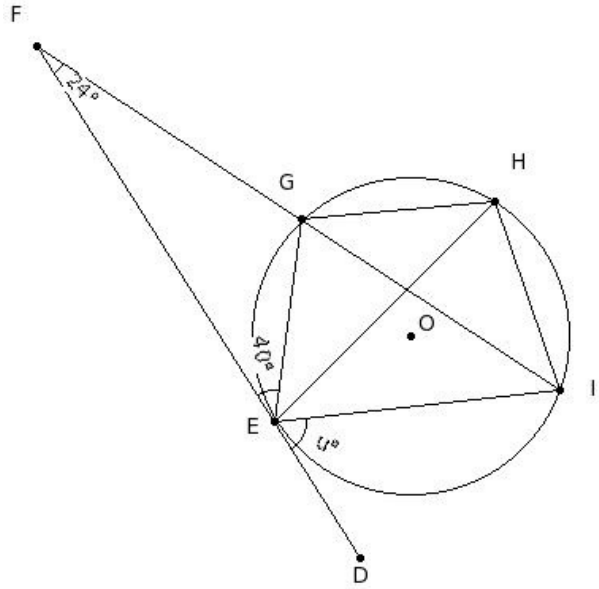
(i) 121° (ii) 126° (iii) 116° (iv) 131° (v) 146°

10. In the given figure, O is the centre of the circle and the tangents FI and HI meet at point I. If ∠GHF = 54°, find ∠HIF



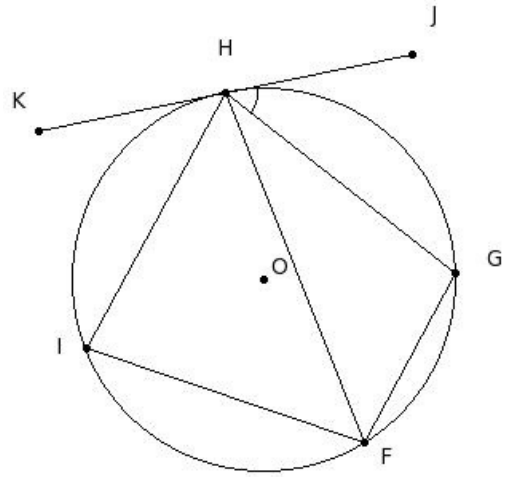
(i) 77° (ii) 72° (iii) 87° (iv) 102° (v) 82°

11. In the given figure, O is the centre of the circle and DF is the tangent at E. If ∠EFG = 24°,∠FEG = 40°, find ∠IED



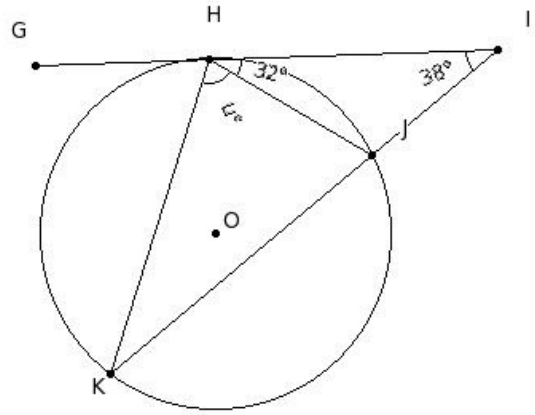
(i) 64° (ii) 94° (iii) 69° (iv) 79° (v) 74°

12. In the given figure, FGHI is a cyclic quadrilateral such that HF bisects ∠IFG and JK is the tangent at H. If ∠HFG = 50°, find ∠JHG



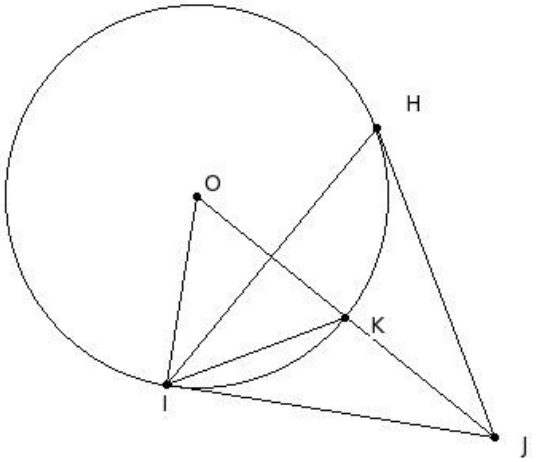
(i) 50° (ii) 60° (iii) 80° (iv) 55° (v) 65°

13. In the given figure, O is the centre of the circle and GI is the tangent at H. If ∠HIJ = 38°,∠IHJ = 32°, find ∠KHJ



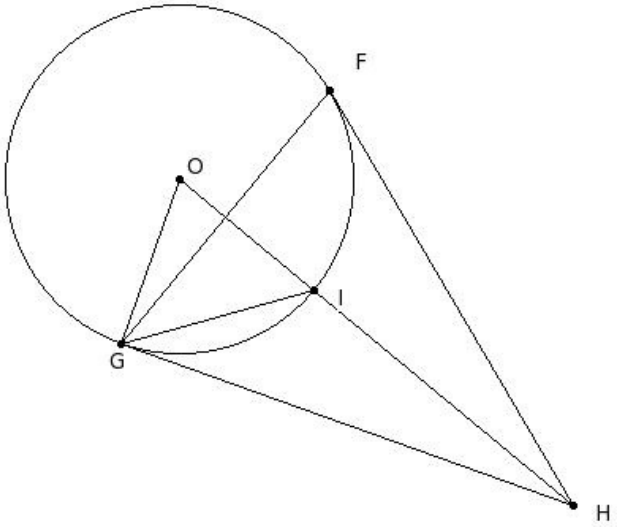
(i) 78° (ii) 93° (iii) 88° (iv) 83° (v) 108°

14. In the given figure, JH and JI are tangent segments to the circle with centre O. Given ∠IJK = 30°, find ∠HIO



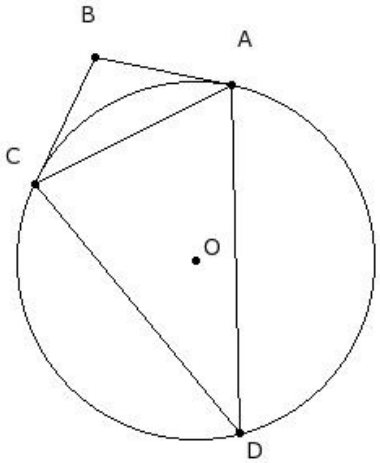
(i) 35° (ii) 40° (iii) 45° (iv) 30° (v) 60°

15. In the given figure, HF and HG are tangent segments to the circle with centre O. Given ∠GHI = 20°, find ∠FGI



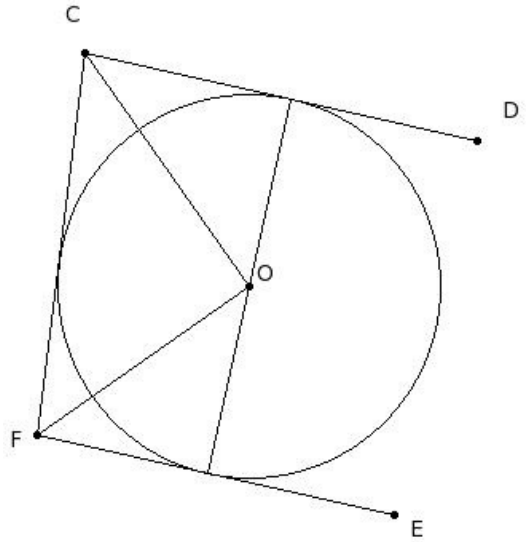
(i) 65° (ii) 35° (iii) 40° (iv) 45° (v) 50°

16. O is the centre of the circle. AB and CB are tangents to the circle. If ∠CDA = 38°, find ∠ABC



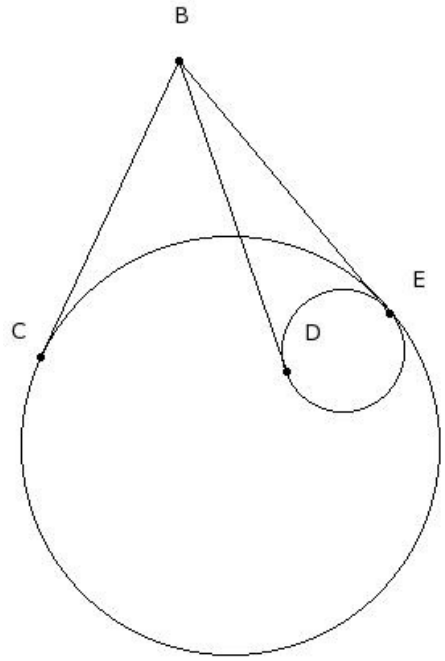
(i) 114° (ii) 134° (iii) 104° (iv) 109° (v) 119°

17. In the given figure, CD and EF are parallel tangents to the circle with centre O. CF is another tangent meeting CD and EF at C and F. Find ∠COF



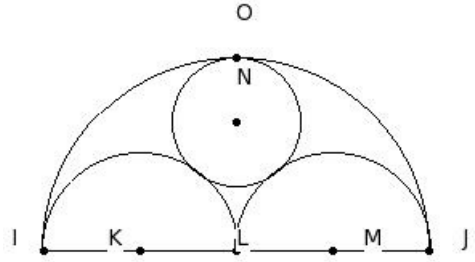
(i) 100° (ii) 95° (iii) 105° (iv) 120° (v) 90°

18. In the given figure, BE is the common tangent to the two circles. BC & BD are also tangents. Given BC = 20 cm, find BD



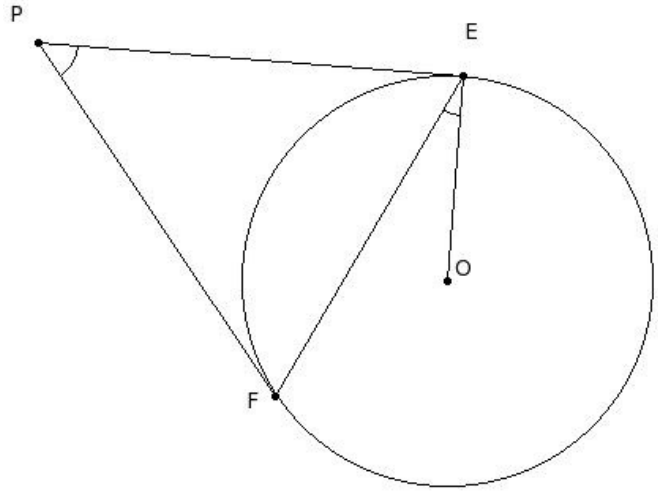
(i) 20 cm (ii) 19 cm (iii) 21 cm (iv) 22 cm (v) 18 cm

19. IJ is a line segment and L is its mid-point. Three semi-circles are drawn with IL , LJ and IJ as diameters. K , M and L respectively are the centres of these semi-circles. A new circle is drawn touching these three semi-circles. Find its radius, given IK = 6 cm



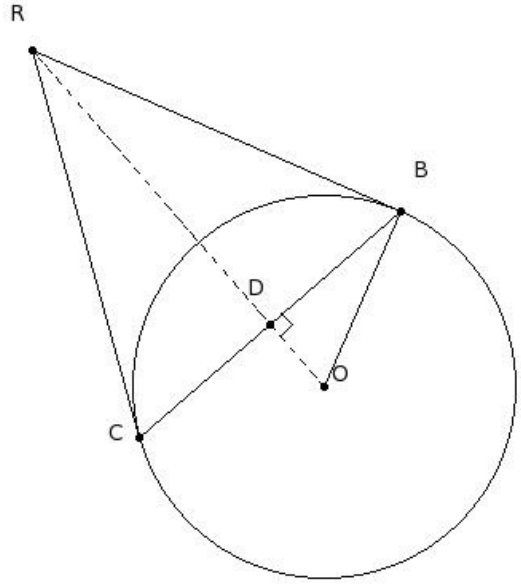
(i) 3.00 cm (ii) 4.00 cm (iii) 6.00 cm (iv) 2.00 cm (v) 5.00 cm

20. In the given figure, EP & FP are tangents to the circle with centre O. Given ∠P = 52°, find ∠E



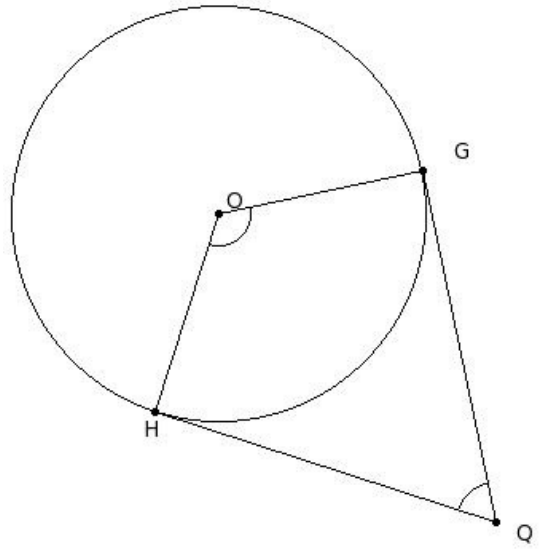
(i) 41° (ii) 26° (iii) 31° (iv) 36° (v) 56°

21. In the given figure, BR & CR are tangents to the circle with centre O. Given OB = 12 cm and BC = 22 cm, find BR



(i) 25.52 cm (ii) 27.52 cm (iii) 26.52 cm (iv) 28.52 cm (v) 29.52 cm

22. In the given figure, GQ & HQ are tangents to the circle with centre O. Given ∠GQH = 60°, find ∠GOH



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

Assignment Key

1) (iv)	2) (v)	3) (iv)	4) (iii)	5) (i)	6) (v)
7) (iv)	8) (iv)	9) (iii)	10) (ii)	11) (i)	12) (i)
13) (i)	14) (iv)	15) (ii)	16) (iii)	17) (v)	18) (i)
19) (ii)	20) (ii)	21) (ii)	22) (v)		