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

3. If two circles of radii 12 cm and 3 cm touch externally, the distance between their centres is

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

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

   (i) 0 (ii) (-1) (iii) 1 (iv) 2 (v) 4

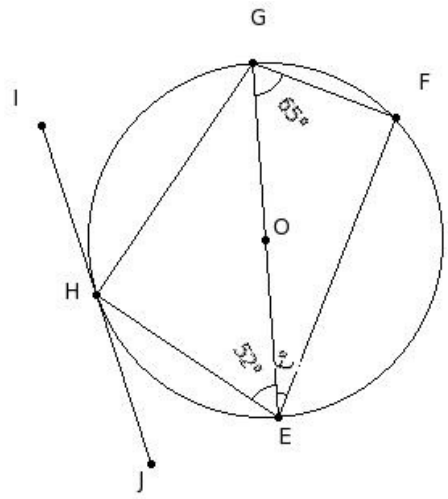
5. If two circles intersect, the number of their common tangents is

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

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

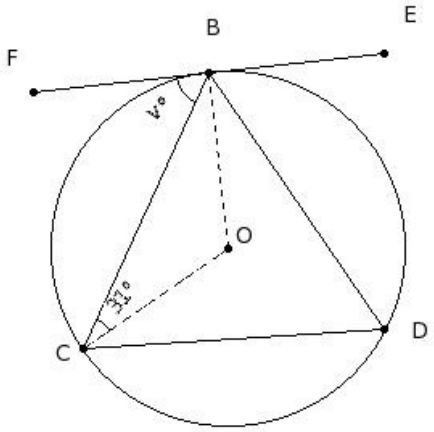
   (i) 5 (ii) 0 (iii) 3 (iv) 4 (v) 2

7. In the given figure, O is the centre of the circle and IJ is the tangent at H. If ∠GEH = 52° and ∠EGF = 65°, find ∠GEF



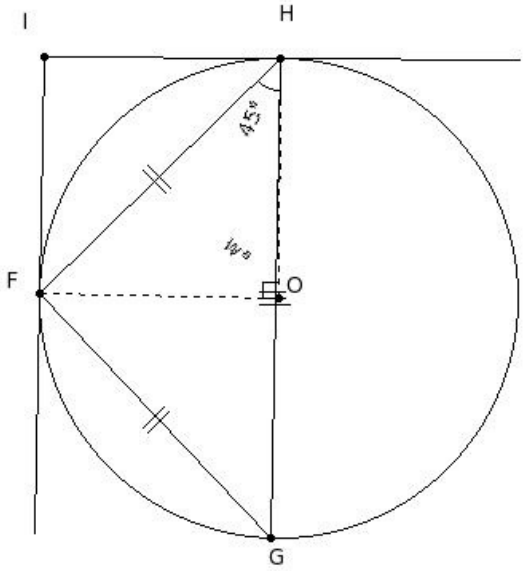
   (i) 40° (ii) 55° (iii) 35° (iv) 30° (v) 25°

8. In the given figure, O is the centre of the circle and EF is the tangent at B. If ∠OCB = 31°, find ∠FBC



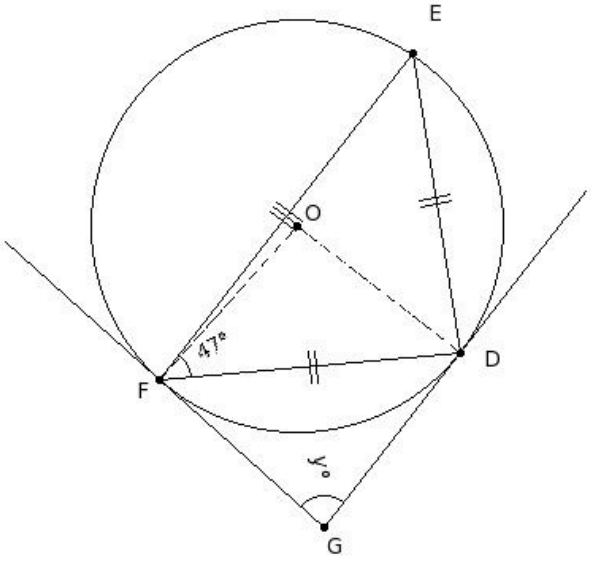
(i) 64° (ii) 69° (iii) 59° (iv) 74° (v) 89°

9. In the given figure, O is the centre of the circle and the tangents FI and HI meet at point I. If ∠GHF = 45°, find ∠FOH



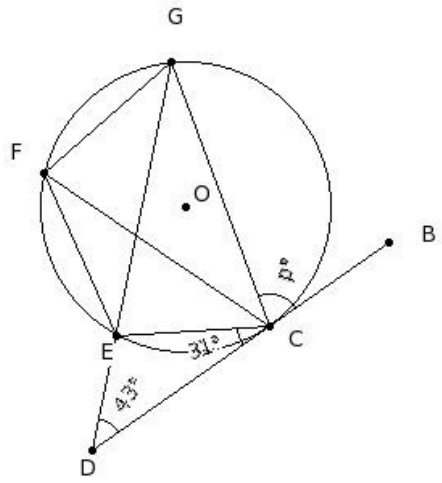
(i) 100° (ii) 105° (iii) 90° (iv) 95° (v) 120°

10. In the given figure, O is the centre of the circle and the tangents DG and FG meet at point G. If ∠EFD = 47°, find ∠FGD



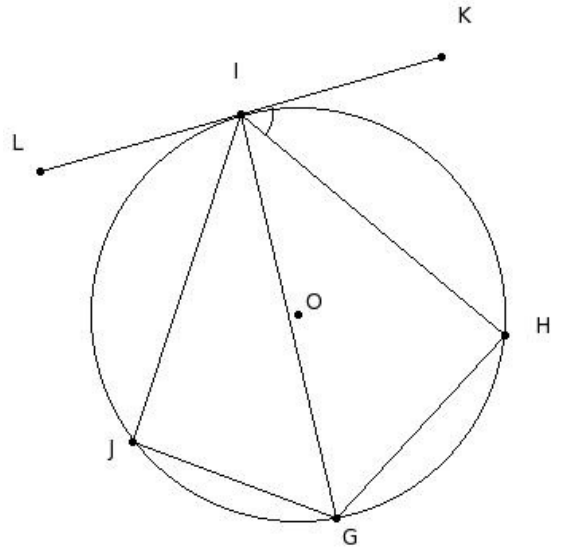
(i) 96° (ii) 116° (iii) 101° (iv) 91° (v) 86°

11. In the given figure, O is the centre of the circle and BD is the tangent at C. If ∠CDE = 43°,∠DCE = 31°, find ∠GCB



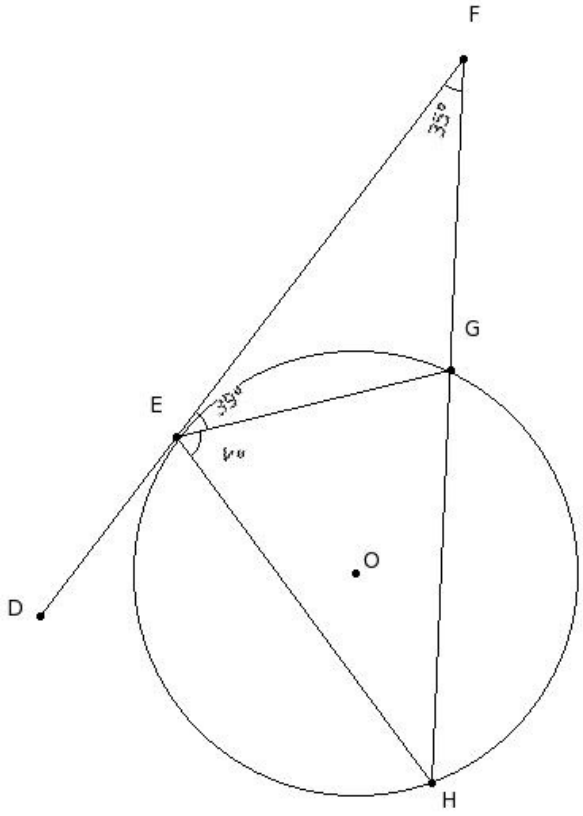
(i) 89° (ii) 104° (iii) 74° (iv) 84° (v) 79°

12. In the given figure, GHIJ is a cyclic quadrilateral such that IG bisects ∠JGH and KL is the tangent at I. If ∠IGH = 56°, find ∠KIH



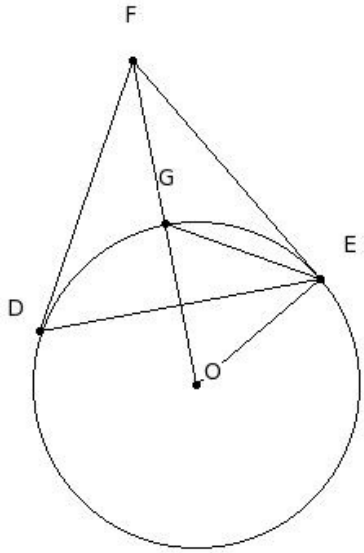
(i) 56° (ii) 61° (iii) 71° (iv) 86° (v) 66°

13. In the given figure, O is the centre of the circle and DF is the tangent at E. If ∠EFG = 35°,∠FEG = 39°, find ∠HEG



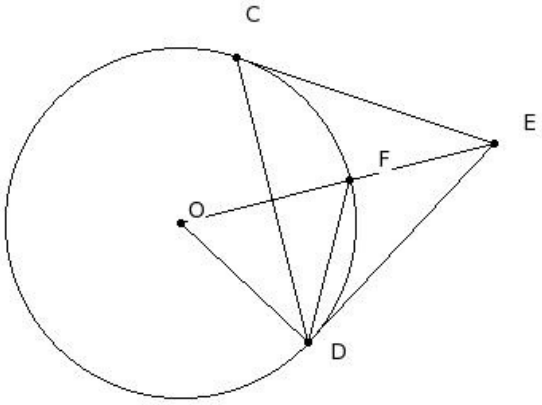
(i) 82° (ii) 97° (iii) 72° (iv) 77° (v) 67°

14. In the given figure, FD and FE are tangent segments to the circle with centre O. Given ∠EFG = 30°, find ∠DEO



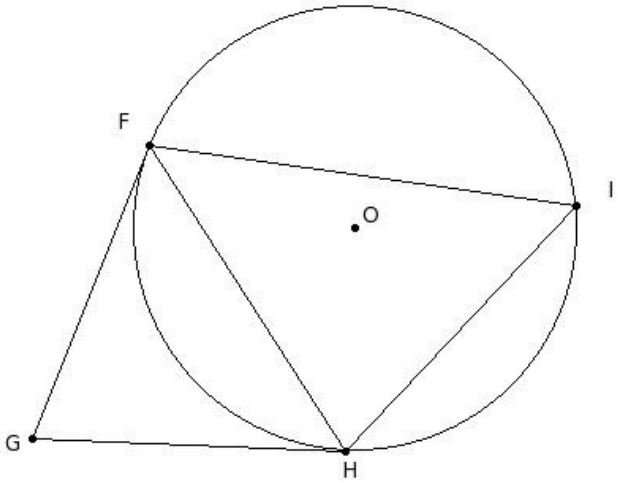
(i) 35° (ii) 40° (iii) 30° (iv) 45° (v) 60°

15. In the given figure, EC and ED are tangent segments to the circle with centre O. Given ∠DEF = 33°, find ∠CDF



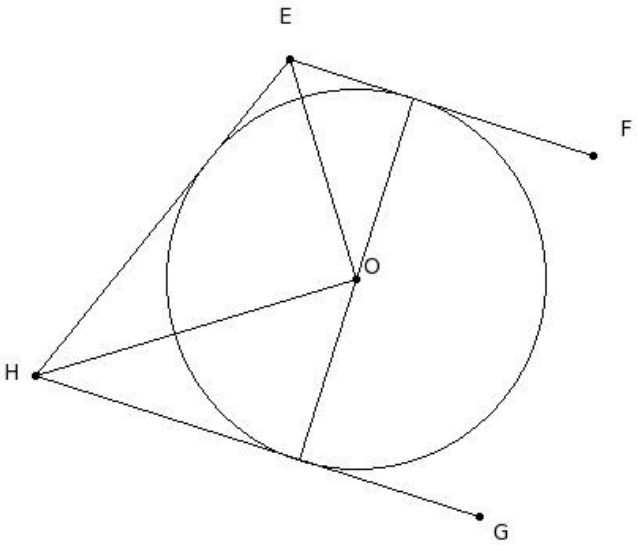
(i) 28.5° (ii) 38.5° (iii) 58.5° (iv) 33.5° (v) 43.5°

16. O is the centre of the circle. FG and HG are tangents to the circle. If ∠HIF = 54.5°, find ∠FGH



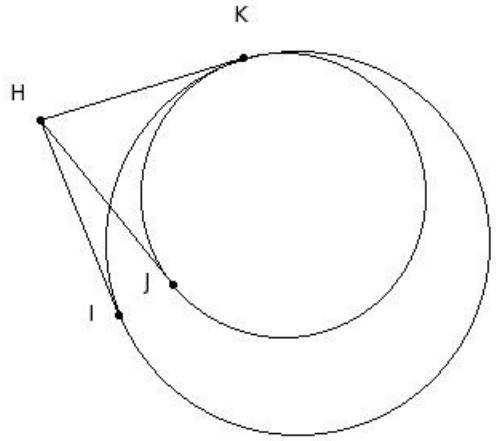
(i) 76° (ii) 71° (iii) 101° (iv) 81° (v) 86°

17. In the given figure, EF and GH are parallel tangents to the circle with centre O. EH is another tangent meeting EF and GH at E and H. Find ∠EOH



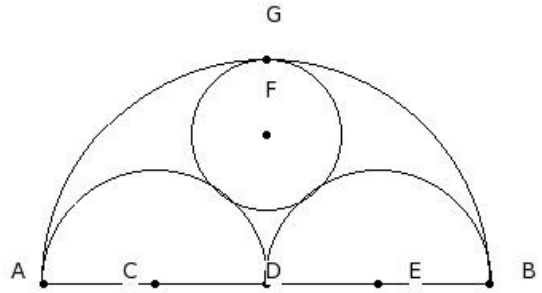
(i) 90° (ii) 105° (iii) 120° (iv) 100° (v) 95°

18. In the given figure, HK is the common tangent to the two circles. HI & HJ are also tangents. Given HI = 13 cm, find HJ



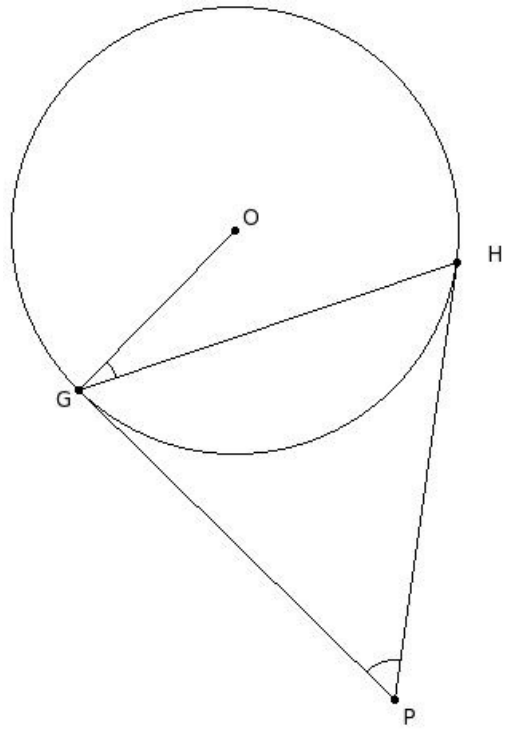
(i) 13 cm (ii) 14 cm (iii) 15 cm (iv) 11 cm (v) 12 cm

19. AB is a line segment and D is its mid-point. Three semi-circles are drawn with AD , DB and AB as diameters. C , E and D respectively are the centres of these semi-circles. A new circle is drawn touching these three semi-circles. Find its radius, given AC = 7 cm



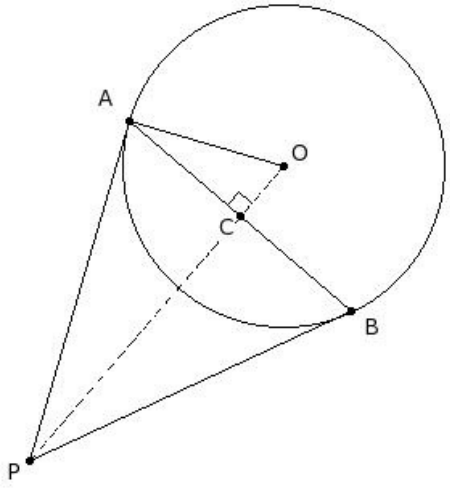
(i) 3.67 cm (ii) 5.67 cm (iii) 4.67 cm (iv) 6.67 cm (v) 2.67 cm

20. In the given figure, GP & HP are tangents to the circle with centre O. Given ∠P = 54°, find ∠G



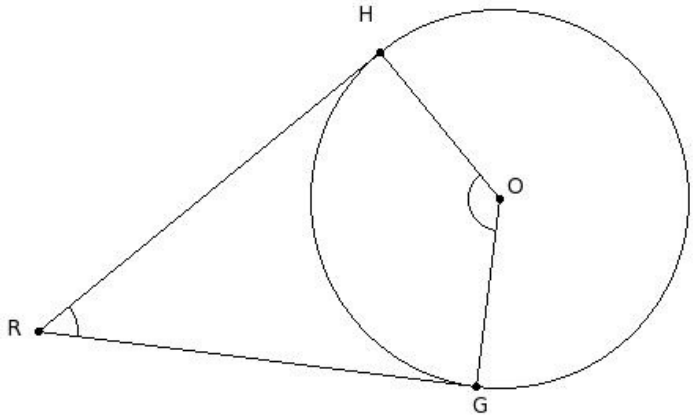
(i) 57° (ii) 32° (iii) 42° (iv) 27° (v) 37°

21. In the given figure, AP & BP are tangents to the circle with centre O. Given OA = 10 cm and AB = 18 cm, find AP



(i) 19.65 cm (ii) 20.65 cm (iii) 18.65 cm (iv) 22.65 cm (v) 21.65 cm

22. In the given figure, GR & HR are tangents to the circle with centre O. Given ∠GRH = 46°, find ∠GOH



(i) 164° (ii) 134° (iii) 144° (iv) 149° (v) 139°

Assignment Key

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