EduSahara™ Worksheet

Name : Chapter Based Worksheet

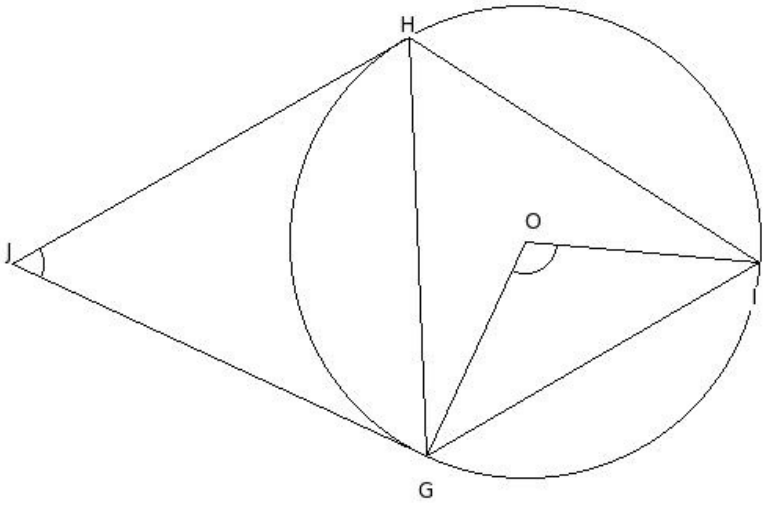
Chapter : Tangents and Secants to a Circle

Grade : SSC Grade X

1. If two circles of radii 15 cm and 4 cm touch externally, the distance between their centres is

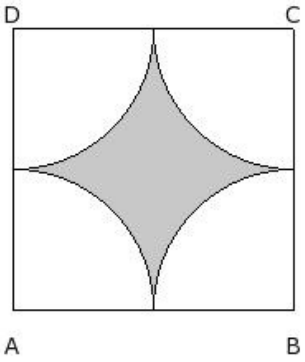
   (i) 17 cm (ii) 20 cm (iii) 18 cm (iv) 21 cm (v) 19 cm

2. O is the centre of the circumcircle of △GHI. Tangents at G and H intersect at J. If ∠GJH = 54.45° and ∠GOI = 110°, find ∠IGH



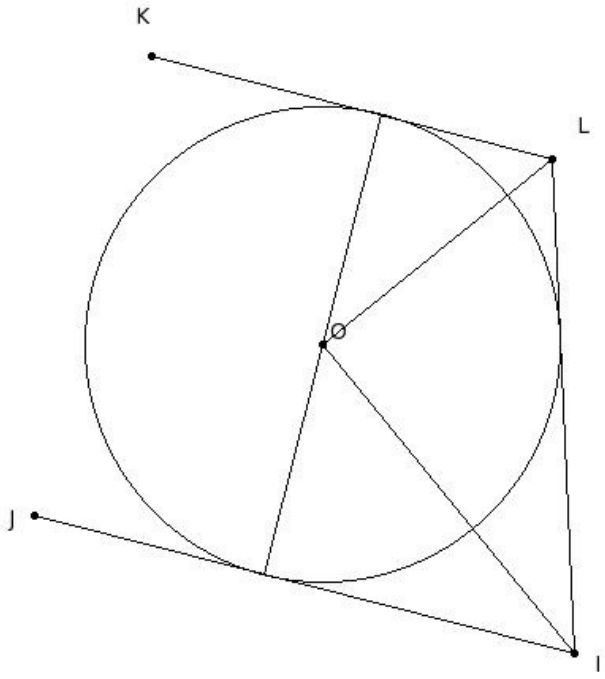
   (i) 62.23° (ii) 67.22° (iii) 77.22° (iv) 92.22° (v) 72.22°

3. In the given figure, ABCD is a square of side 17.00 cm and A, B, C, D are the centres of circular arcs, each of radius 8.50 cm. Find the area of the shaded region



   (i) 61.93 sq.cm (ii) 58.93 sq.cm (iii) 64.93 sq.cm (iv) 66.93 sq.cm (v) 56.93 sq.cm

4. In the given figure, IJ and KL are parallel tangents to the circle with centre O. IL is another tangent meeting IJ and KL at I and L. Find ∠IOL

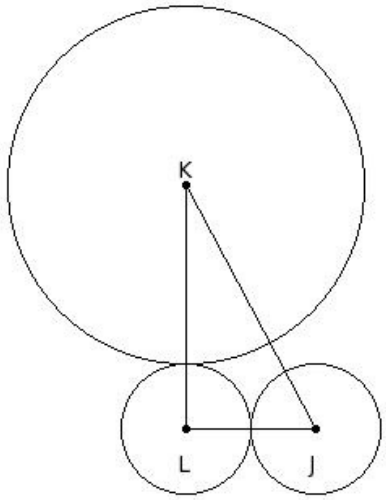


(i) 100° (ii) 105° (iii) 120° (iv) 95° (v) 90°

5. A line which intersects the circle at two distinct points is called a

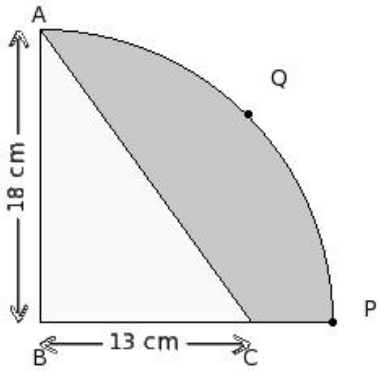
(i) diameter (ii) centre (iii) radius (iv) tangent (v) secant

6. 'J' and 'K' are centres of circles of radii 4 cm and 11 cm such that JK = 17 cm and 'L' is the centre of the circle of radius 'r' cm which touches the above circles externally. If ∠JLK = 90°, find 'r'



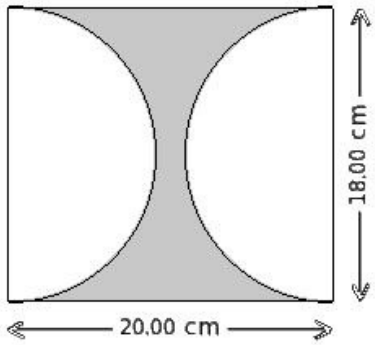
(i) 4 cm (ii) 3 cm (iii) 2 cm (iv) 6 cm (v) 5 cm

7. In the below figure, BPQA is a quadrant of a circle. AB = 18.00 cm and BC = 13 cm . Find the area of the shaded region



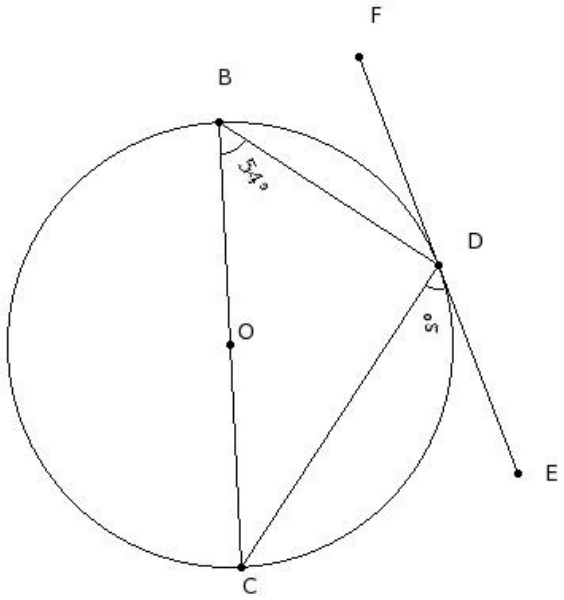
(i) 112.57 sq.cm (ii) 137.57 sq.cm (iii) 124.57 sq.cm (iv) 155.57 sq.cm (v) 163.57 sq.cm

8. Find the area of the shaded region



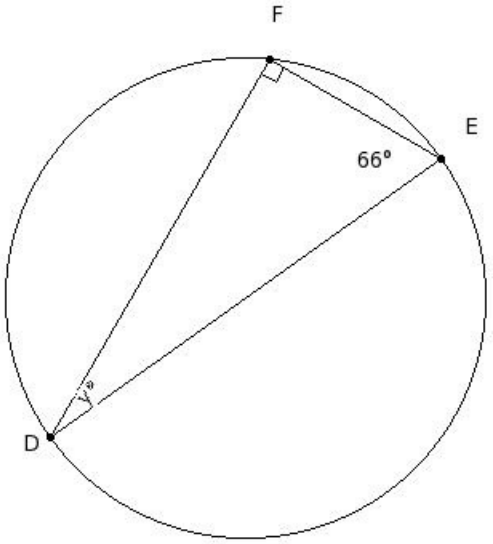
(i) 117.43 sq.cm (ii) 108.43 sq.cm (iii) 81.43 sq.cm (iv) 105.43 sq.cm (v) 100.43 sq.cm

9. In the given figure, O is the centre of the circle and EF is the tangent at D. If ∠DBC = 54°, find ∠EDC



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

10. Find the missing angle in the following figure?



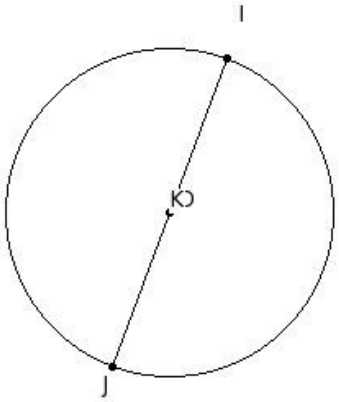
(i) 29° (ii) 24° (iii) 54° (iv) 39° (v) 34°

11. Which of the following statements are true?

a) Infinite circles can be drawn passing through three collinear points.
b) Only one circle can be drawn passing through two points.
c) Exactly two tangents can be drawn parallel to a secant.
d) Only one circle can be drawn with a centre.
e) Atmost one circle can be drawn passing through three non-collinear points.

(i) {b,e,c} (ii) {d,a,c} (iii) {b,e} (iv) {a,c} (v) {c,e}

12. If a chord IJ = 20 cm is drawn in a circle with radius OI = 10 cm, find its distance from the centre of the circle



(i) 2.00 cm (ii) 7.00 cm (iii) 0.00 cm (iv) 8.00 cm (v) 1.00 cm

13. Which of the following statements are true?

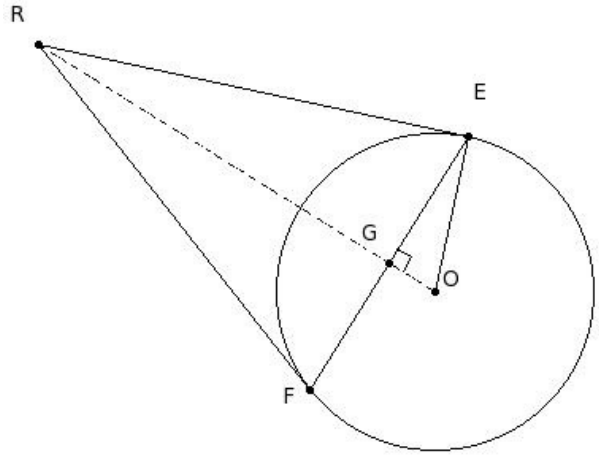
a) The sides of a triangle can be tangents to a circle.
b) Atmost one tangent can be drawn through a point inside the circle.
c) Only two tangents can be drawn from a point outside the circle.
d) Two tangents to a circle always intersect.
e) Only one tangent can be drawn through a point on a circle.

(i) {b,d,e} (ii) {d,c} (iii) {a,c,e} (iv) {b,a} (v) {b,a,c}

14. Two concentric circles are of radii 17 cm and 13 cm. Find the length of the chord of the outer circle that touches the inner circle

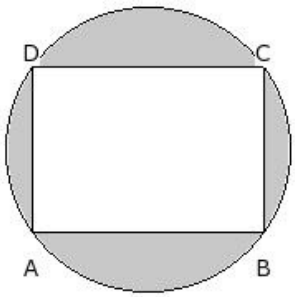
(i) 23.91 cm (ii) 20.91 cm (iii) 21.91 cm (iv) 22.91 cm (v) 19.91 cm

15. In the given figure, ER & FR are tangents to the circle with centre O. Given OE = 10 cm and EF = 19 cm, find ER



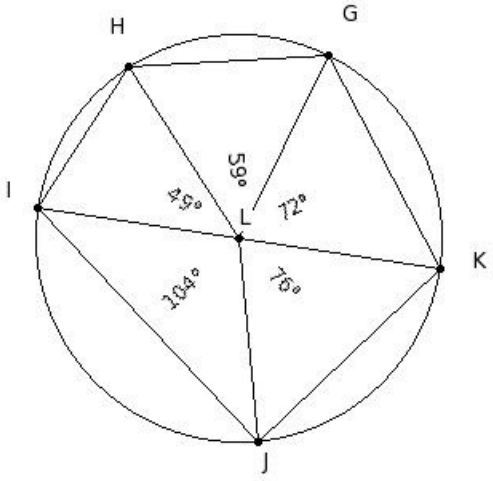
(i) 31.42 cm (ii) 28.42 cm (iii) 32.42 cm (iv) 30.42 cm (v) 29.42 cm

16. In the given figure, the circle circumscribes a rectangle with sides 14.00 cm and 10.00 cm. Find the area of the remaining portion other than the rectangle



(i) 97.57 sq.cm (ii) 89.57 sq.cm (iii) 87.57 sq.cm (iv) 92.57 sq.cm (v) 95.57 sq.cm

17. The diameters of the circle are



(i) $\overline{GH}, \overline{HI}, \overline{IJ}, \overline{JK}, \overline{KG}, \overline{IK}$ (ii) $\overline{LG}, \overline{LH}, \overline{LI}, \overline{LJ}, \overline{LK}, \overline{IK}$ (iii) $\overline{IK}$ (iv) $\overline{GH}, \overline{HI}, \overline{IJ}, \overline{JK}, \overline{KG}$ (v) $\overline{LG}, \overline{LH}, \overline{LI}, \overline{LJ}, \overline{LK}$

18. The angle subtended by the semicircle at the centre is

(i) 180° (ii) 185° (iii) 210° (iv) 195° (v) 190°

19. Which of the following statements are true?

a) The area enclosed by a chord and its major arc is called major segment.
b) The diameter divides the circle into two unequal parts.
c) A circle divides the plane on which it lies into three parts.
d) The area enclosed by a chord and its minor arc is called minor segment.
e) A sector is the area enclosed by two radii and a chord.

(i) {e,c} (ii) {b,a,c} (iii) {a,c,d} (iv) {b,a} (v) {b,e,d}

20. Which of the following figures represent a chord ?

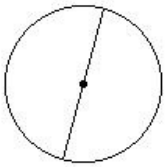


fig I

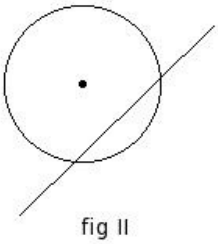


fig II

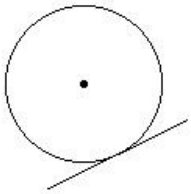


fig III

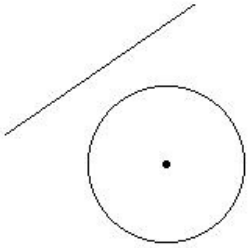


fig IV

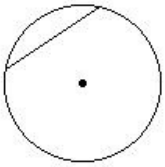
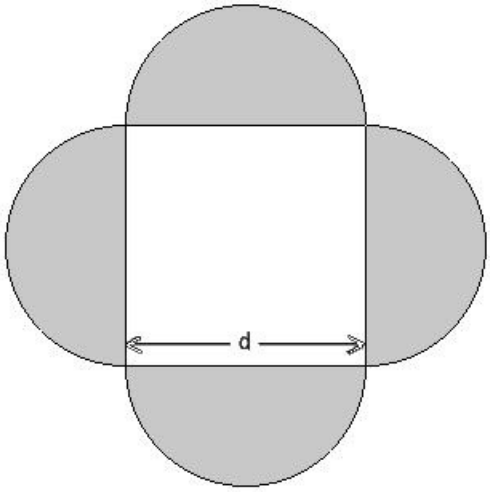


fig V

(i) fig III (ii) fig IV (iii) fig V (iv) fig II (v) fig I

21. In the given figure, d = 15.00 cm is the diameter of the semi-circles. Find the area of the shaded region



(i) 360.57 sq.cm (ii) 353.57 sq.cm (iii) 337.57 sq.cm (iv) 365.57 sq.cm (v) 348.57 sq.cm

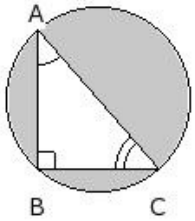
22. If the radius of a circle is 14 cm, what is its diameter?

(i) 27 cm (ii) 28 cm (iii) 29 cm (iv) 30 cm (v) 26 cm

23. The point of intersection of the angular bisectors of a triangle is

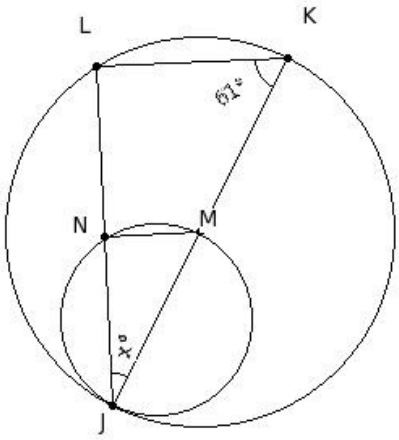
(i) excentre (ii) circumcentre (iii) incentre (iv) centroid (v) orthocentre

24. In the given figure, BC = 7 cm and AB = 8 cm. Find the area of the shaded region



(i) 55.79 sq.cm (ii) 57.79 sq.cm (iii) 63.79 sq.cm (iv) 65.79 sq.cm (v) 60.79 sq.cm

25. Two circles touch internally. M is the centre of the bigger circle and lies on the smaller circle. If ∠JKL = 61°, find ∠J



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

Assignment Key

1) (v)	2) (i)	3) (i)	4) (v)	5) (v)	6) (i)
7) (ii)	8) (iv)	9) (v)	10) (ii)	11) (v)	12) (iii)
13) (iii)	14) (iii)	15) (iv)	16) (iv)	17) (iii)	18) (i)
19) (iii)	20) (iii)	21) (ii)	22) (ii)	23) (iii)	24) (v)
25) (ii)					