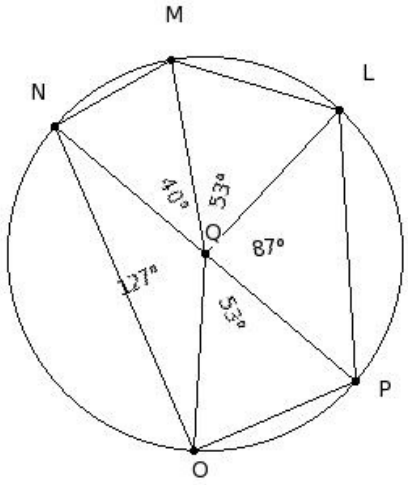
EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Tangents and Secants to a Circle

Grade : SSC Grade X

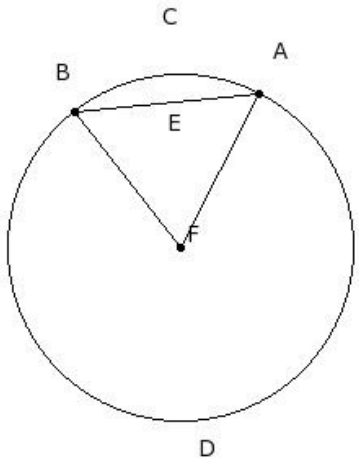
1. The radii of the circle are



(i) $\overline{LM}, \overline{MN}, \overline{NO}, \overline{OP}, \overline{PL}, \overline{QN}$ (ii) $\overline{QL}, \overline{QM}, \overline{QN}, \overline{QO}, \overline{QP}$ (iii) $\overline{MN}, \overline{NO}, \overline{OP}, \overline{PL}$ (iv) $\overline{LM}, \overline{MN}, \overline{NO}, \overline{OP}, \overline{PL}$

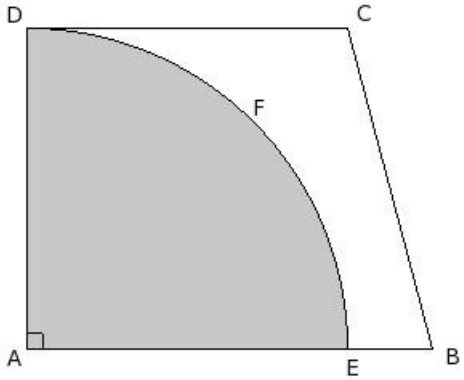
(v) $\overline{LM}, \overline{MN}, \overline{NO}, \overline{OP}, \overline{PL}, \overline{NP}$

2. The major sector of the circle is



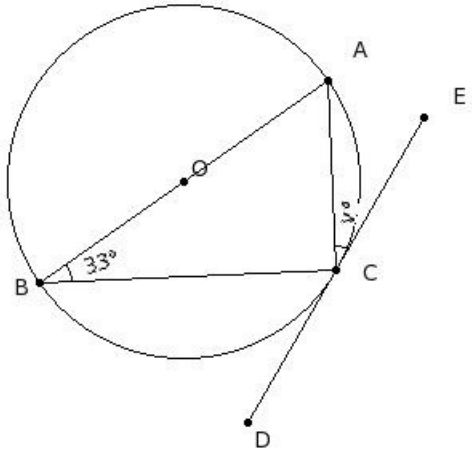
(i) ADBEA (ii) FADBF (iii) ACBEA (iv) ADB (v) ACB

3. In the given figure , ABCD is a trapezium. A quarter circle AEFD is removed from the trapezium. If AD = CD = 20 and EB = 5.3 , find the area of the remaining portion



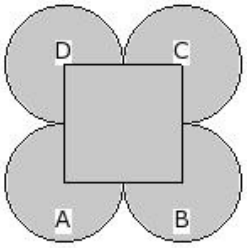
(i) 113.71 sq.cm (ii) 161.71 sq.cm (iii) 132.71 sq.cm (iv) 138.71 sq.cm (v) 150.71 sq.cm

4. In the given figure, O is the centre of the circle and DE is the tangent at C. If ∠CBA = 33°, find ∠ECA



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

5. In the given figure, ABCD is a square of side 7.00 cm and A, B, C, D are centres of circles which touch externally in pairs. Find the area of the shaded region



(i) 147.50 sq.cm (ii) 142.50 sq.cm (iii) 192.50 sq.cm (iv) 164.50 sq.cm (v) 168.50 sq.cm

6. Which of the following figures represent a diameter ?

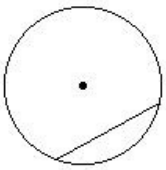


fig I

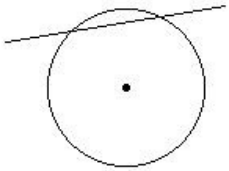


fig II

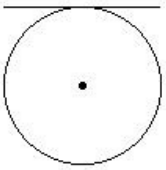


fig III

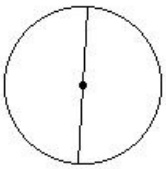


fig IV

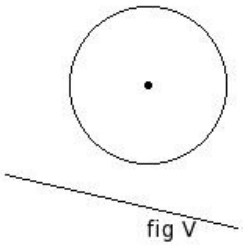
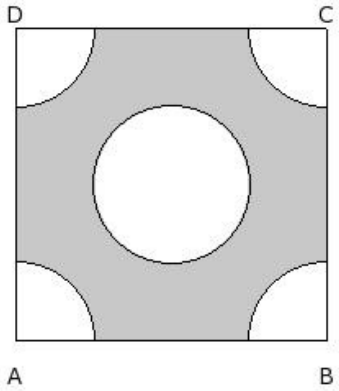


fig V

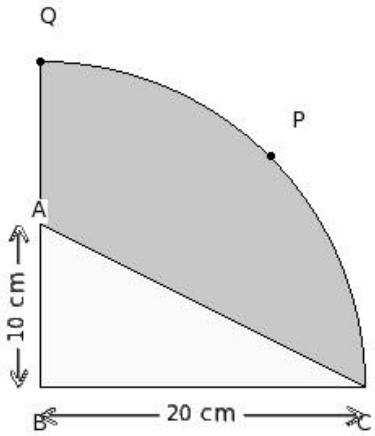
(i) fig I (ii) fig IV (iii) fig V (iv) fig II (v) fig III

7. In the given figure, ABCD is a square of side 19.00 cm . At the centre there is a circle with radius 4.75 cm and the same circle quadrants are at the four corners. Find the perimeter of the shaded region.



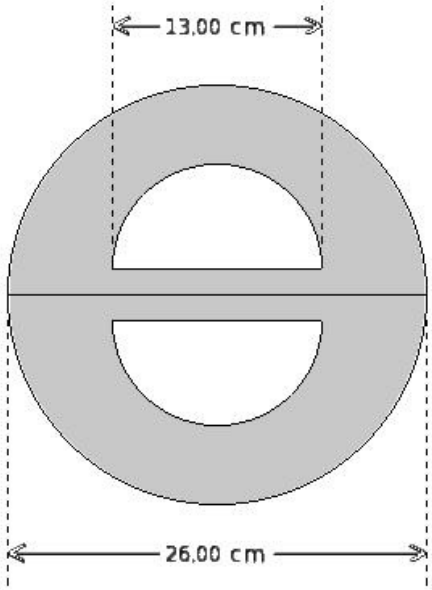
(i) 102.71 cm (ii) 100.71 cm (iii) 94.71 cm (iv) 92.71 cm (v) 97.71 cm

8. In the below figure, BCPQ is a quadrant of a circle. BC = 20.00 cm and AB = 10 cm . Find the area of the shaded region



(i) 214.29 sq.cm (ii) 242.29 sq.cm (iii) 199.29 sq.cm (iv) 221.29 sq.cm (v) 198.29 sq.cm

9. In the given figure, find the area of the shaded region



(i) 382.36 sq.cm (ii) 412.36 sq.cm (iii) 426.36 sq.cm (iv) 398.36 sq.cm (v) 383.36 sq.cm

10. Two circles with equal radii are

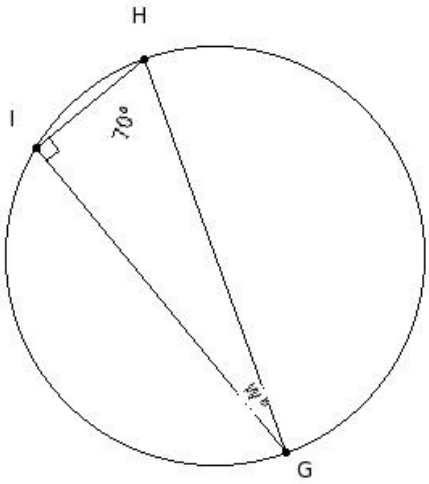
(i) not similar (ii) only similar but not congruent (iii) congruent (iv) concentric

11. Which of the following statements are true?

a) A secant and a chord are same.
b) A tangent is the limiting case of a secant.
c) A diameter is a limiting case of a chord.
d) A radius is a limiting case of a diameter.
e) A secant has two end points.

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

12. Find the missing angle in the following figure?

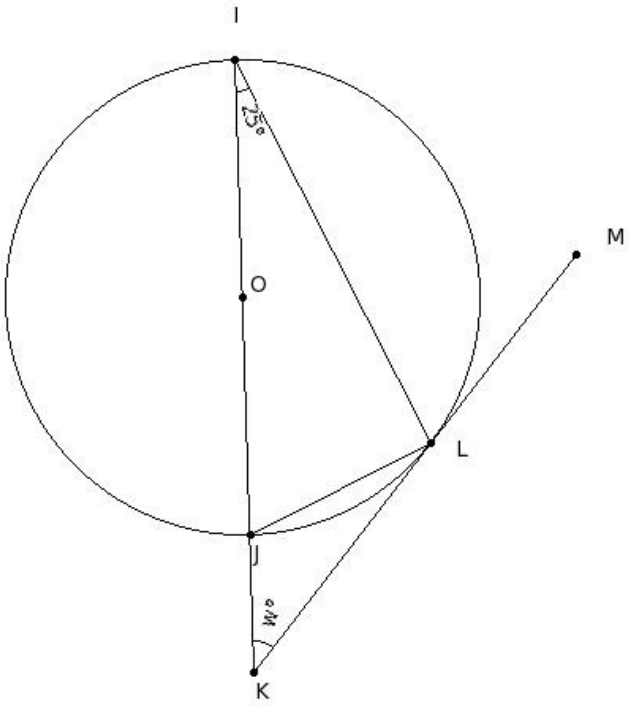


(i) 30° (ii) 20° (iii) 50° (iv) 35° (v) 25°

13. The mid-point of the diameter of a circle is called

(i) segment (ii) radius (iii) semi-circle (iv) diameter (v) centre

14. In the given figure, O is the centre of the circle and KM is the tangent at L . If ∠JIL = 25°, find ∠JKL



(i) 70° (ii) 45° (iii) 50° (iv) 40° (v) 55°

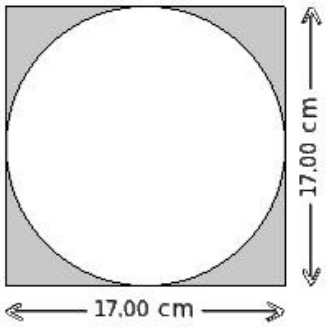
15. With the vertices of a triangle △HIJ as centres, three circles are drawn touching each other externally. If the sides of the triangle are 10 cm , 14 cm and 12 cm , find the radii of the circles

(i) 4 cm , 6 cm & 13 cm respectively (ii) 9 cm , 6 cm & 8 cm respectively

(iii) 4 cm , 11 cm & 8 cm respectively (iv) 9 cm , 11 cm & 13 cm respectively

(v) 4 cm , 6 cm & 8 cm respectively

16. Find the area of the shaded region

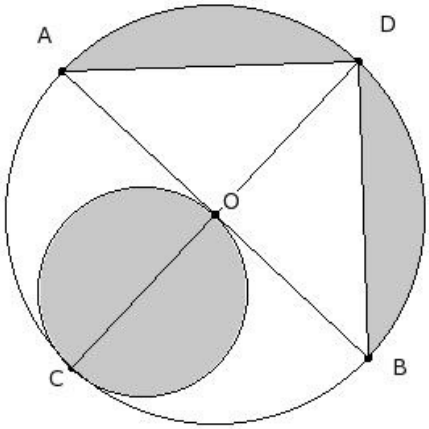


(i) 61.93 sq.cm (ii) 66.93 sq.cm (iii) 58.93 sq.cm (iv) 64.93 sq.cm (v) 56.93 sq.cm

17. Circles having common centre are called

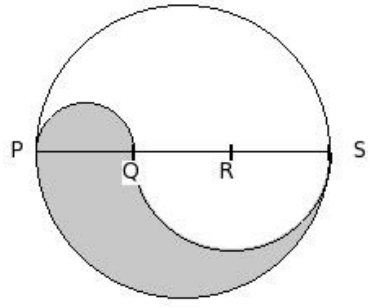
(i) concentric circles (ii) similar circles (iii) intersecting circles (iv) congruent circles

18. In the below figure, AB is the diameter of a circle with center O and OA = 13.00 cm . Find the area of the shaded region



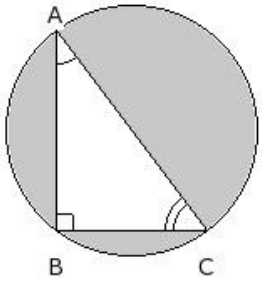
(i) 241.36 sq.cm (ii) 237.36 sq.cm (iii) 223.36 sq.cm (iv) 215.36 sq.cm (v) 229.36 sq.cm

19. In the given figure ,PQRS is the diameter of the circle of radius 7.50 cm and PQ = QR = RS. Find the perimeter of the shaded region



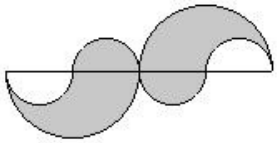
(i) 50.14 cm (ii) 47.14 cm (iii) 52.14 cm (iv) 44.14 cm (v) 42.14 cm

20. In the given figure, BC = 9 cm and AB = 12 cm. Find the perimeter of the shaded region



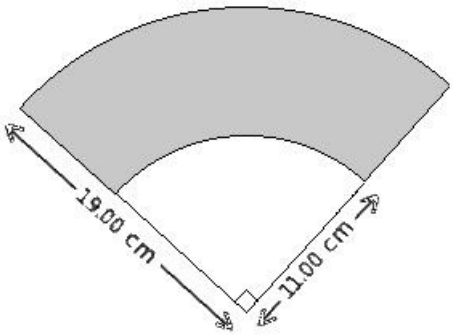
(i) 80.14 cm (ii) 83.14 cm (iii) 78.14 cm (iv) 88.14 cm (v) 86.14 cm

21. The given figure consists of four small semi-circles of equal radii and two big semi-circles of equal radii. The radius of each big semi-circle is 4.00 cm which is the same as the diameter of the small semi-circle. Find the area of the shaded region



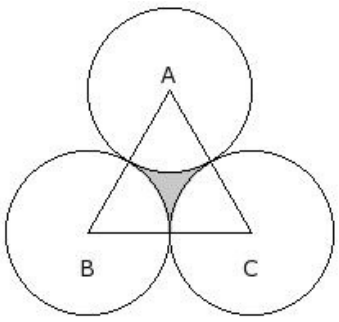
(i) 53.29 sq.cm (ii) 50.29 sq.cm (iii) 45.29 sq.cm (iv) 55.29 sq.cm (v) 47.29 sq.cm

22. Find the area of the shaded region



(i) 188.57 sq.cm (ii) 212.57 sq.cm (iii) 204.57 sq.cm (iv) 171.57 sq.cm (v) 163.57 sq.cm

23. In the given figure △ABC is an equilateral triangle whose area is 43.3 sq.cm. With each vertex of the triangle as center, a circle is drawn with radius equal to half the length of the side of the triangle . Find the area of the shaded region



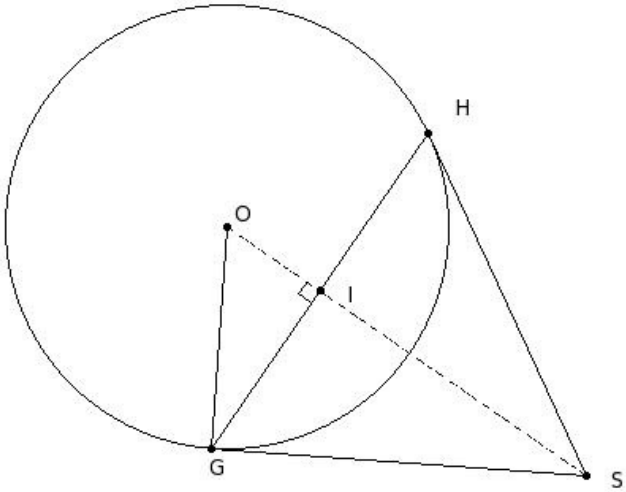
(i) 3.02 sq.cm (ii) 6.02 sq.cm (iii) 4.02 sq.cm (iv) 5.02 sq.cm (v) 2.02 sq.cm

24. Which of the following statements are true?

a) One and only one tangent can be drawn to a circle from a point outside it.
b) An infinite number of diameters may be drawn for a circle.
c) Every circle has a unique diameter.
d) An infinite number of chords may be drawn for a circle.
e) Two semi-circles of a circle together make the whole circle.

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

25. In the given figure, GS & HS are tangents to the circle with centre O. Given OG = 14 cm and GH = 24 cm, find GS



(i) 23.30 cm (ii) 25.30 cm (iii) 22.30 cm (iv) 21.30 cm (v) 24.30 cm

Assignment Key

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