EduSahara™ Learning Center Assignment

Grade : Class IX, SSC
Chapter : Circles
Name : Chord Properties of a Circle

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1. A chord that passes through the centre of the circle is called

(i) segment (ii) chord (iii) diameter (iv) circumference (v) centre

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2. A chord of a circle divides the whole circular region into two parts, each called a

(i) major segment (ii) chord (iii) segment (iv) radius (v) diameter

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3. The segment of the circle containing the centre of the circle is called

(i) major segment (ii) semi-circle (iii) diameter (iv) chord (v) segment

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4. Which of the following statements are true?

a) Every circle has a unique diameter
b) A circle consists of an infinite number of points
c) A line can meet a circle atmost at two points
d) Every circle has a unique centre
e) Each radius of a circle is also a chord of the circle

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

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5. Which of the following statements are true?

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

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

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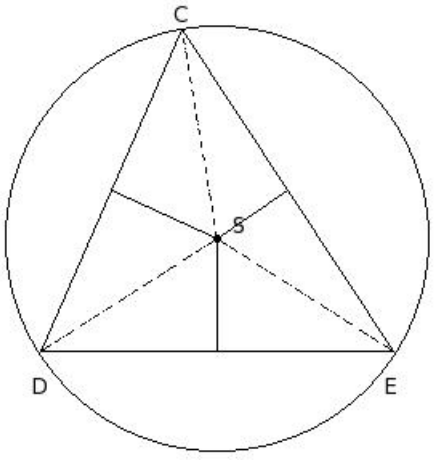
6. In the given triangle S is the circumcentre. If SC = 13.20 cm, find the circumference of the circumcircle



(i) 85.0 cm (ii) 81.0 cm (iii) 83.0 cm (iv) 84.0 cm (v) 82.0 cm

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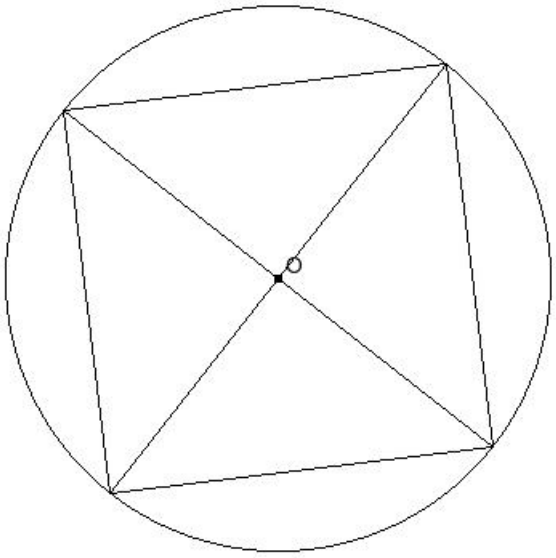
7. Find the side of the square in the following figure if the radius of the circle is 17.00 cm.



(i) 23.04 cm (ii) 26.04 cm (iii) 25.04 cm (iv) 22.04 cm (v) 24.04 cm

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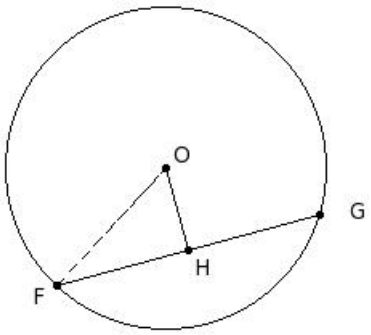
8. If a chord FG = 17 cm is drawn in a circle with radius OF = 10 cm, find its distance from the centre of the circle



(i) 4.27 cm (ii) 6.27 cm (iii) 7.27 cm (iv) 5.27 cm (v) 3.27 cm

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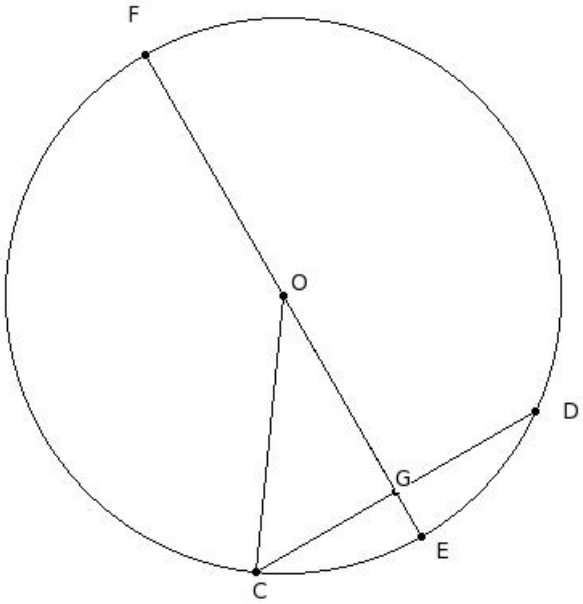
9. The diameter EF of a circle with centre 'O' is perpendicular to the chord CD. If CD = 20.00 cm and EG = 3.20 cm, find the radius of the circle.



(i) 17.20 cm (ii) 19.20 cm (iii) 15.20 cm (iv) 18.20 cm (v) 16.20 cm

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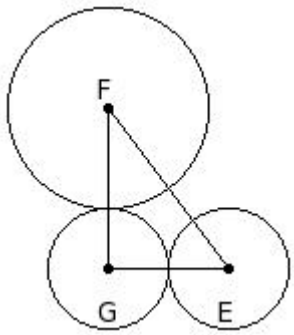
10. 'E' and 'F' are centres of circles of radii 3 cm and 5 cm such that EF = 10 cm and 'G' is the centre of the circle of radius 'r' cm which touches the above circles externally. If ∠EGF = 90°, find 'r'



(i) 4 cm (ii) 5 cm (iii) 2 cm (iv) 1 cm (v) 3 cm

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11. Which of the following statements are true?
    a) A chord divides a circle into two segments
    b) The diameter is the longest chord
    c) The radius is the shortest chord
    d) A chord divides a circle into two sectors
    e) Atmost one chord can be drawn on a circle with a certain length

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

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12. Which of the following statements are true?
    a) Equal length chords subtend equal angles at the centre of the circle
    b) The farther the chord is from the centre, the larger the angle it subtends at the centre
    c) The longest chord of the circle passes through the centre of the circle
    d) No two chords bisects each other
    e) Equal length chords are equidistant from the centre of the circle

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

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

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

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14. Which of the following statements are true?
    a) The longest of all chords of a circle is called diameter
    b) A sector is the area enclosed by two radii and a chord
    c) The midpoint of any diameter of a circle is its centre
    d) The diameter divides the circle into two unequal parts
    e) Two chords bisect each other

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

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15. Which of the following statements are true?
    a) A secant has two end points
    b) A tangent is the limiting case of a secant
    c) A secant and a chord are same
    d) A radius is a limiting case of a diameter

e) A diameter is a limiting case of a chord

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

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16. EF , GH , IJ , KL are chords of a circle with EF = 5 cm , GH = 4 cm , IJ = 6.9 cm and KL = 6.08 cm. The chord farthest from the centre of the circle is

(i) GH = 4 cm (ii) KL = 6.08 cm (iii) IJ = 6.9 cm (iv) EF = 5 cm

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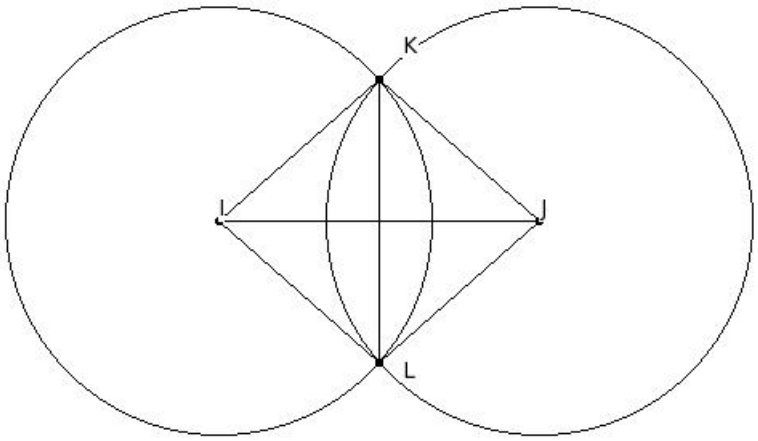
17. In the given figure, I and J are centres of two circles with equal radii intersecting at K and L. If IJ = 20 cm and KL = 17.6 cm, find the radii of the circles



(i) 14.32 cm (ii) 13.32 cm (iii) 12.32 cm (iv) 15.32 cm (v) 11.32 cm

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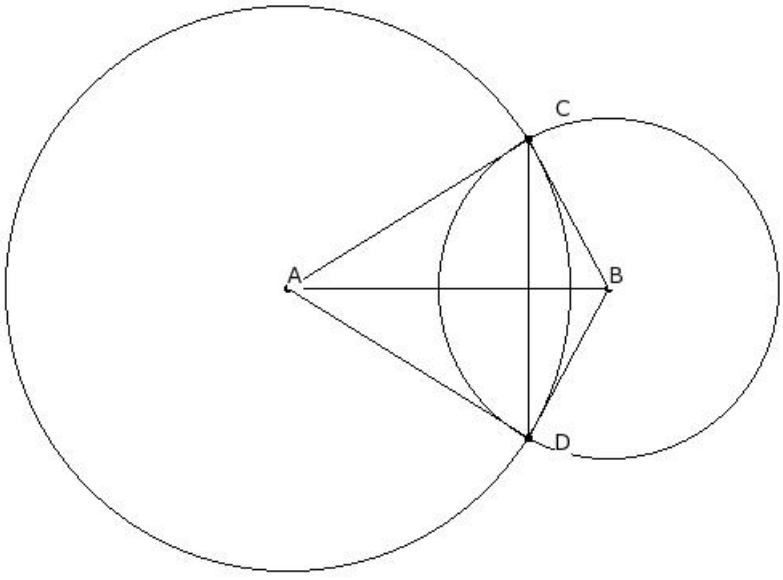
18. In the given figure, two circles of radii AC = 17.6 cm & BC = 10.6 cm intersect at C & D. The distance between the centres AB = 20 cm, find the length of CD



(i) 16.62 cm (ii) 20.62 cm (iii) 19.62 cm (iv) 18.62 cm (v) 17.62 cm

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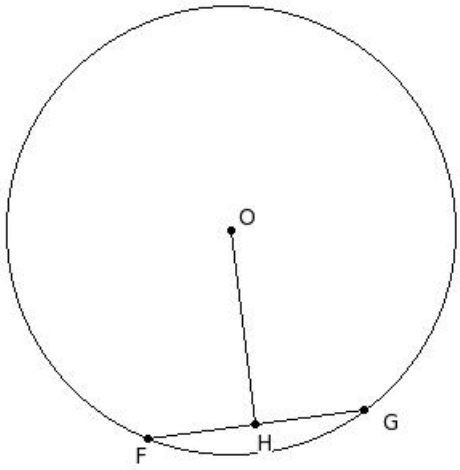
19. In the given figure, O is the centre of the circle. H is a point on chord FG such that FH = HG. Find ∠OHF



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

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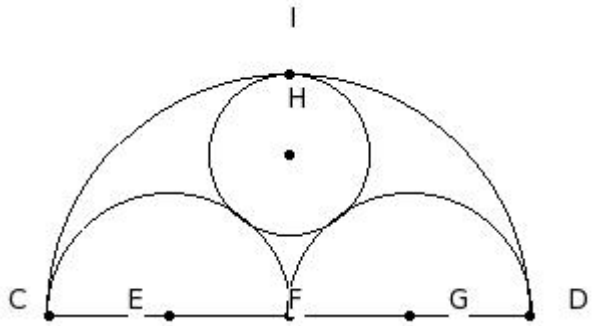
20. CD is a line segment and F is its mid-point. Three semi-circles are drawn with CF , FD and CD as diameters. E , G and F respectively are the centres of these semi-circles. A new circle is drawn touching these three semi-circles. Find its radius, given CE = 6 cm



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

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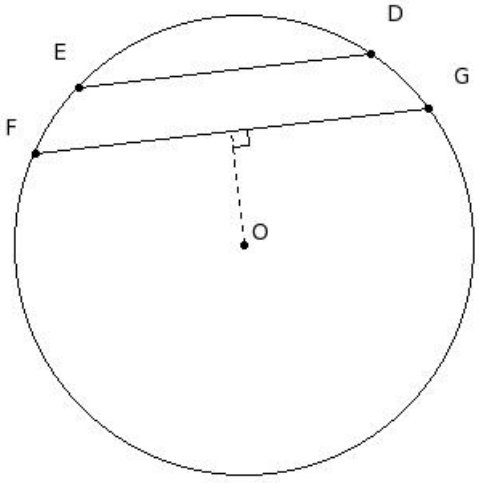
21. In the given figure, DE ‖ FG. Length of chords DE = 18 cm and FG = 25 cm.
If the distance between the chords is 4 cm , find the radius of the circle



(i) 15.53 cm (ii) 13.53 cm (iii) 16.53 cm (iv) 14.53 cm (v) 12.53 cm

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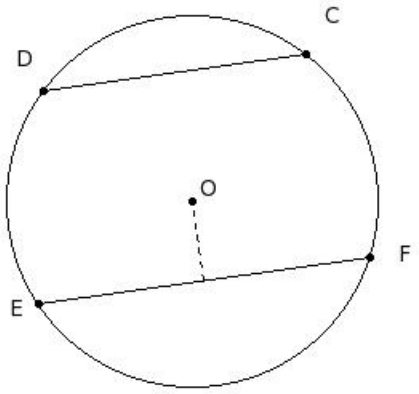
22. In the given figure, CD ‖ EF. Length of chords CD = 17 cm and EF = 21 cm.
If the distance between the chords is 13 cm , find the radius of the circle



(i) 11.65 cm (ii) 9.65 cm (iii) 10.65 cm (iv) 12.65 cm (v) 13.65 cm

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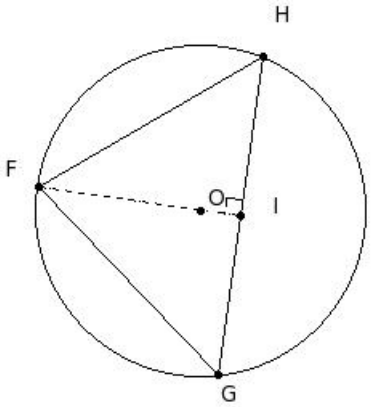
23. In the given figure, △FGH is inscribed in a circle. If FG = FH = 16 cm and GH = 20 cm, find the radius of the circle



(i) 12.25 cm (ii) 9.25 cm (iii) 11.25 cm (iv) 8.25 cm (v) 10.25 cm

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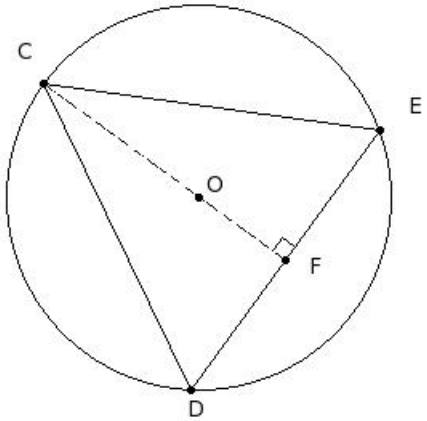
24. In the given figure, △CDE is an isosceles such that CD = CE. Given CO = 12 cm, CD = CE = 21 cm, find DE



(i) 20.33 cm (ii) 18.33 cm (iii) 19.33 cm (iv) 21.33 cm (v) 22.33 cm

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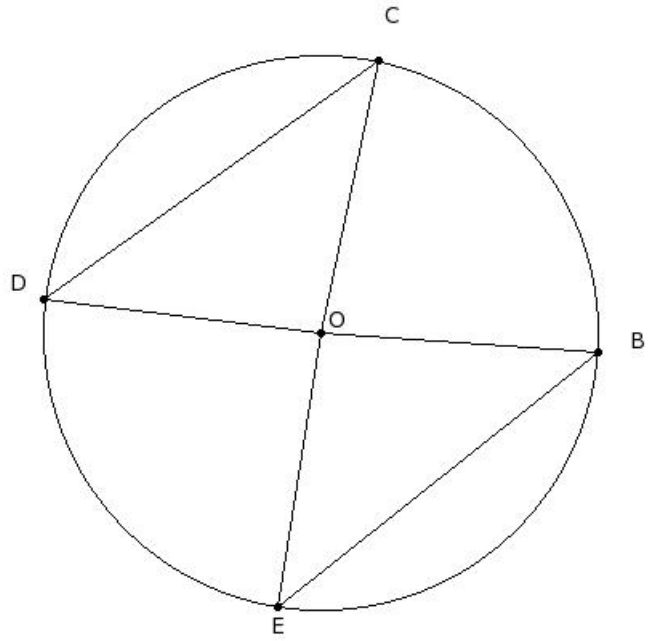
25. In the given figure, BE & CD are two chords of equal length. Given ∠OCD = 42.5°, find ∠BOE



(i) 100° (ii) 110° (iii) 125° (iv) 105° (v) 95°

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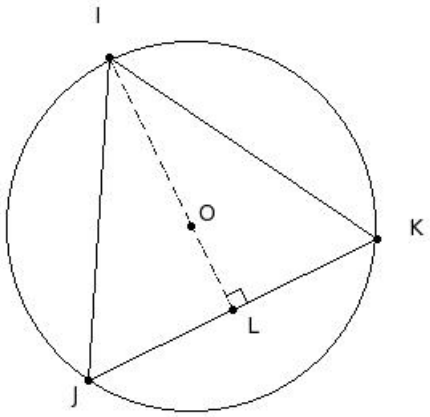
26. In the given figure, △IJK is equilateral. Given IO = 12 cm, find IJ



(i) 21.78 cm (ii) 19.78 cm (iii) 20.78 cm (iv) 22.78 cm (v) 18.78 cm

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27. Two concentric circles are of radii 19 cm and 10 cm. Find the length of the chord of the outer circle that touches the inner circle

(i) 32.31 cm (ii) 31.31 cm (iii) 34.31 cm (iv) 33.31 cm (v) 30.31 cm

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Assignment Key

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