EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Circles

Grade : SSC Grade IX

1. Which of the following statements are true?

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

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

2. Which of the following figures represent a chord ?

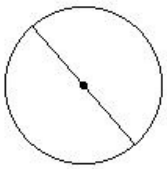


fig I

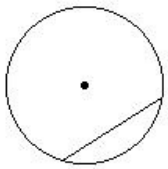


fig II

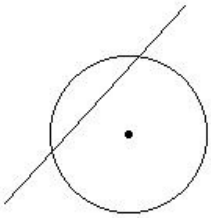


fig III

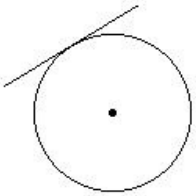


fig IV

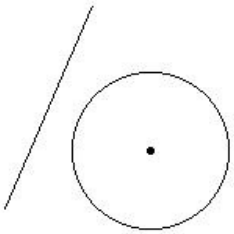
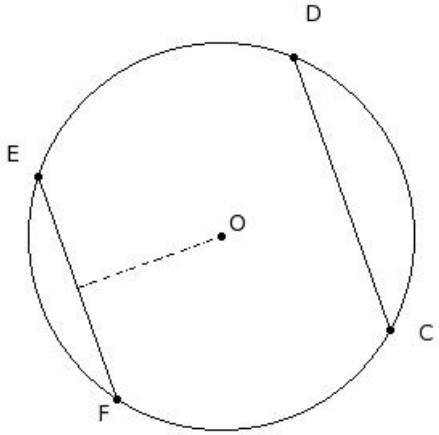


fig V

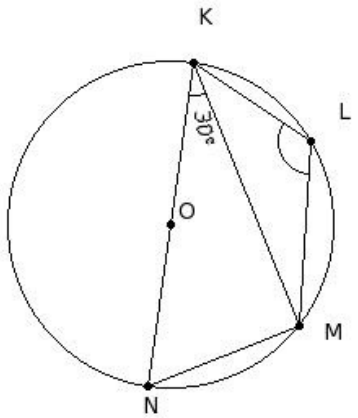
(i) fig III (ii) fig II (iii) fig V (iv) fig IV (v) fig I

3. In the given figure, CD ∥ EF. Length of chords CD = 18 cm and EF = 15 cm.
If the distance between the chords is 18 cm, find the radius of the circle



(i) 11.25 cm (ii) 10.25 cm (iii) 14.25 cm (iv) 13.25 cm (v) 12.25 cm

4. O is the centre of the circle and ∠NKM = 30°, find ∠KLM



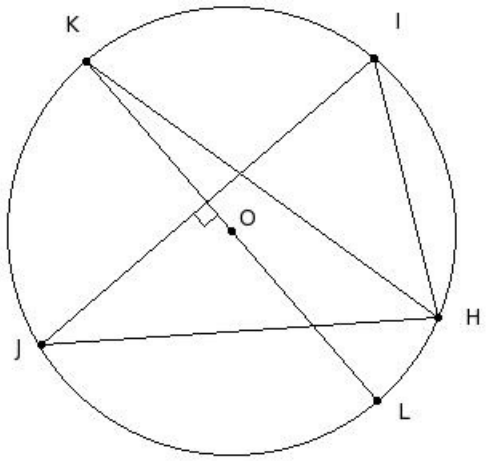
(i) 135° (ii) 130° (iii) 150° (iv) 125° (v) 120°

5. Which of the following statements are true?

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

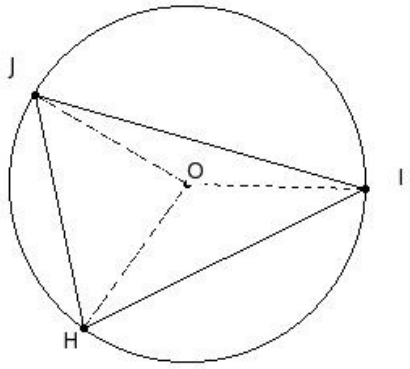
(i) {a,c,d} (ii) {b,d} (iii) {a,c} (iv) {c,d,e} (v) {a,b,e}

6. KL is the perpendicular bisector of side IJ of △HIJ. Given ∠HIJ = 63° and ∠KHJ = 40° , find ∠HJI



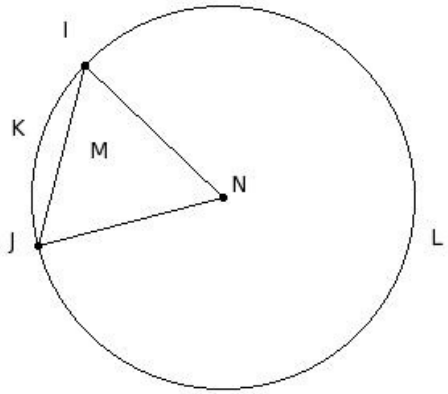
(i) 47° (ii) 37° (iii) 42° (iv) 52° (v) 67°

7. △HIJ is inscribed in a circle with centre O. If ∠HOI = 124° and ∠IOJ = 151°, find ∠HIJ



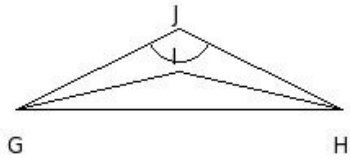
(i) 72.5° (ii) 42.5° (iii) 47.5° (iv) 52.5° (v) 57.5°

8. The minor sector of the circle is



(i) NIKJN (ii) NILJN (iii) IKJ (iv) ILJMI (v) IKJMI

9. In the given figure, △JGH is a scalene triangle. IG bisects ∠JGH. Similarly HI bisects ∠GHJ. Given ∠HJG = 128°, find ∠HIG



(i) 169° (ii) 184° (iii) 154° (iv) 159° (v) 164°

10. Which of the following figures represent a tangent ?

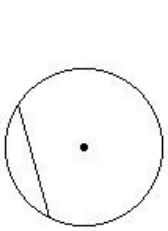


fig I

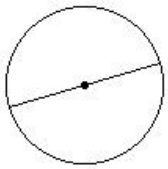


fig II

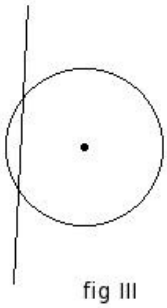


fig III

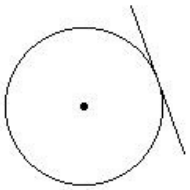


fig IV

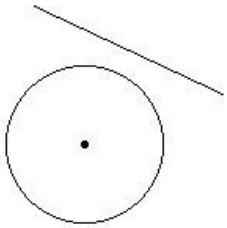
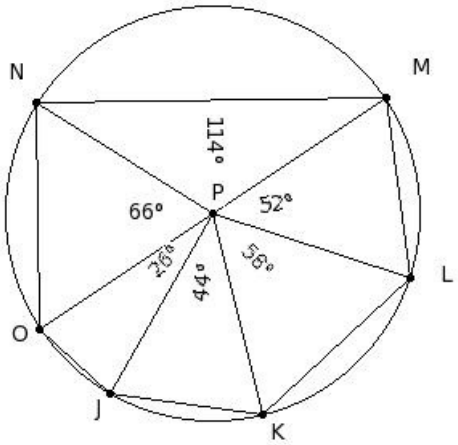


fig V

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

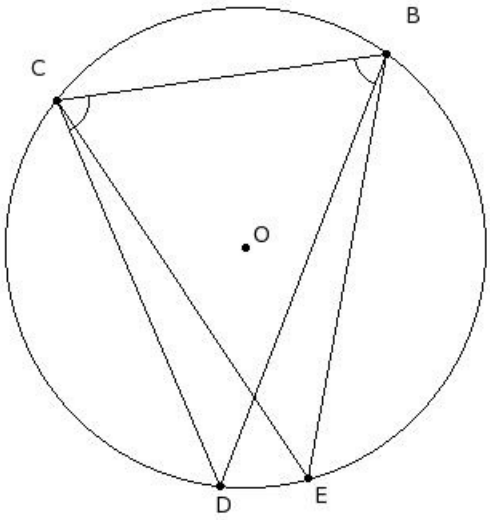
11. The diameters of the circle are



(i) $\overline{PJ}, \overline{PK}, \overline{PL}, \overline{PM}, \overline{PN}, \overline{PO}$ (ii) $\overline{JK}, \overline{KL}, \overline{LM}, \overline{MN}, \overline{NO}, \overline{OJ}$ (iii) $\overline{JK}, \overline{KL}, \overline{LM}, \overline{MN}, \overline{NO}, \overline{OJ}, \overline{MO}$ (iv) $\overline{MO}$

(v) $\overline{PJ}, \overline{PK}, \overline{PL}, \overline{PM}, \overline{PN}, \overline{PO}, \overline{MO}$

12. In the given figure, O is the centre of the circle. If $\angle DBC = 60.92°$ and $\angle BCD = 75.07°$, find the angle $\angle BEC$



(i) 54.01° (ii) 74.01° (iii) 59.01° (iv) 44.01° (v) 49.01°

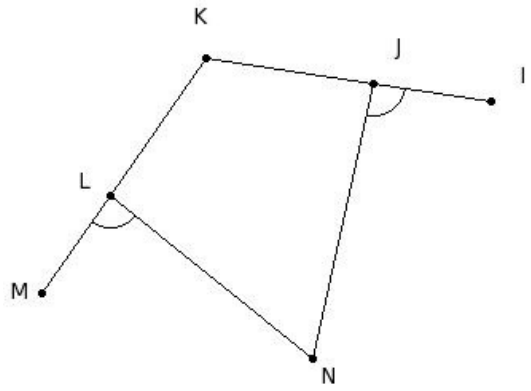
13. With the vertices of a triangle $\triangle DEF$ as centres, three circles are drawn touching each other externally. If the sides of the triangle are 9 cm , 15 cm and 12 cm , find the radii of the circles

(i) 8 cm , 11 cm & 14 cm respectively (ii) 3 cm , 11 cm & 9 cm respectively

(iii) 3 cm , 6 cm & 14 cm respectively (iv) 8 cm , 6 cm & 9 cm respectively

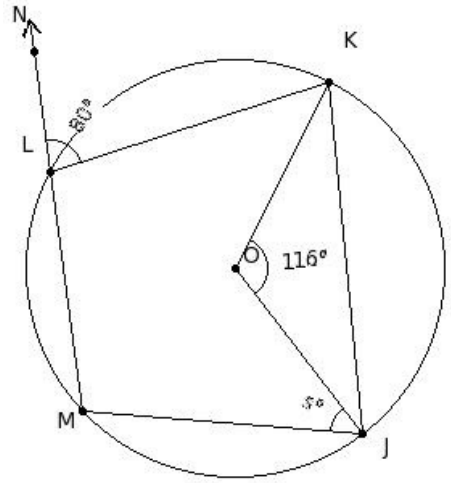
(v) 3 cm , 6 cm & 9 cm respectively

14. In the given figure, JKLN is a cyclic quadrilateral where KL and KJ are produced to M and I respectively. If ∠IJN = 94°, find ∠MLN



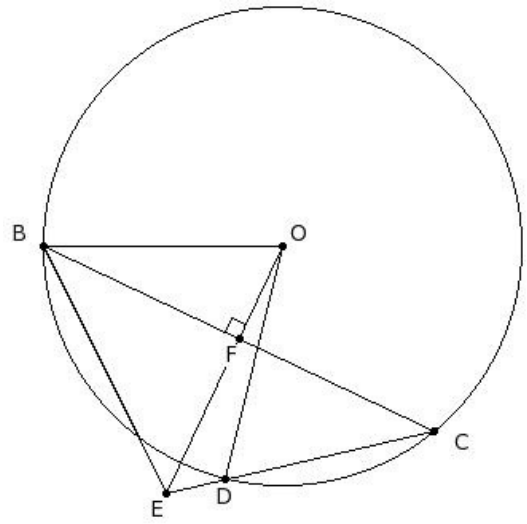
(i) 116° (ii) 91° (iii) 86° (iv) 101° (v) 96°

15. In the given figure, O is the centre of the circle. If ∠JOK = 116° and ∠KLN = 80°, find ∠MJO



(i) 63° (ii) 53° (iii) 78° (iv) 48° (v) 58°

16. In the given figure, O is the centre of the circle, and OF ⊥ BC. If ∠BCD = 38°, find ∠BOD



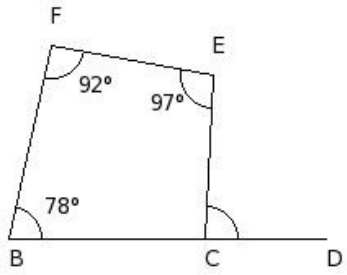
(i) 81° (ii) 76° (iii) 91° (iv) 86° (v) 106°

17. Which of the following statements are true?

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

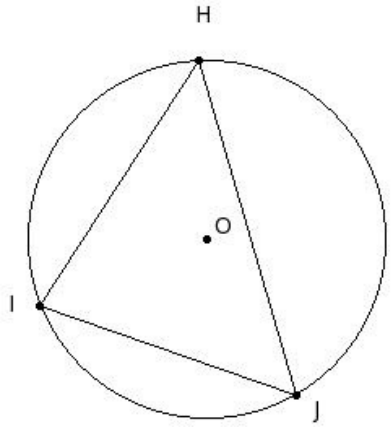
(i) {c,d,e} (ii) {c,a} (iii) {a,b,e} (iv) {d,b} (v) {c,a,b}

18. In the given figure, ∠B = 78° , ∠E = 97° and ∠F = 92°, find ∠ECD



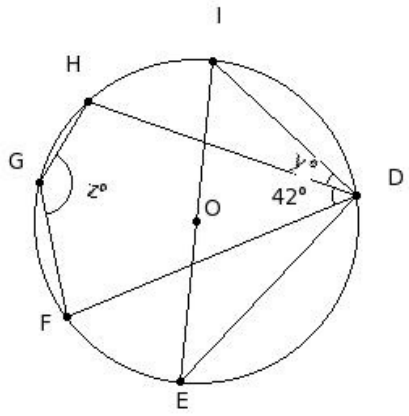
(i) 87° (ii) 97° (iii) 92° (iv) 102° (v) 117°

19. O is the centre of the circle. If ∠IJH = 54.5°, find the angle ∠OIH



(i) 35.5° (ii) 50.5° (iii) 45.5° (iv) 65.5° (v) 40.5°

20. In the given figure, O is the centre and EI is a diameter of the circle and chord EF is equal to chord HI. If ∠FDH = 42°, find ∠HDI + ∠FGH



(i) 172° (ii) 177° (iii) 167° (iv) 162° (v) 192°

21. Which of the following figures represent a secant ?

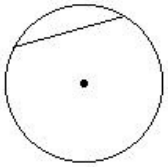


fig I

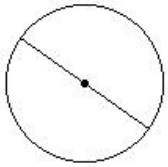


fig II

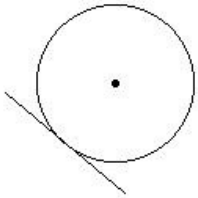


fig III

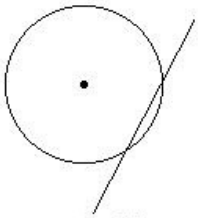


fig IV

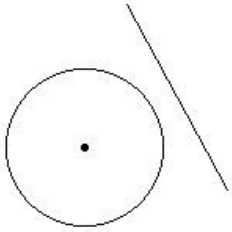
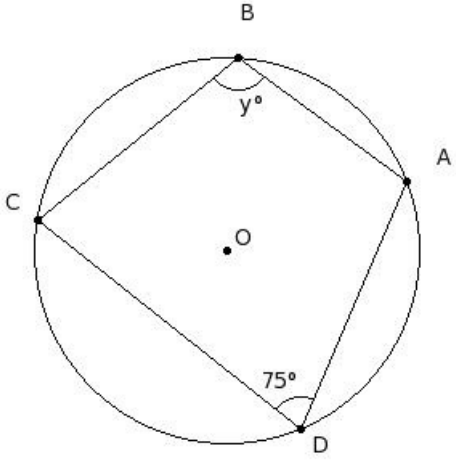


fig V

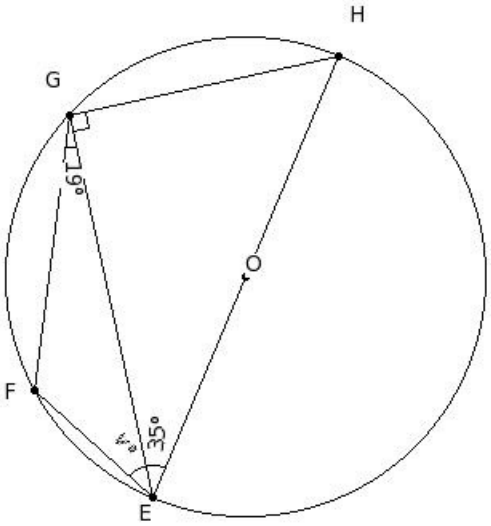
(i) fig I (ii) fig IV (iii) fig V (iv) fig III (v) fig II

22. In the given figure, O is the centre of the circle. If ∠CDA = 75°, find ∠ABC



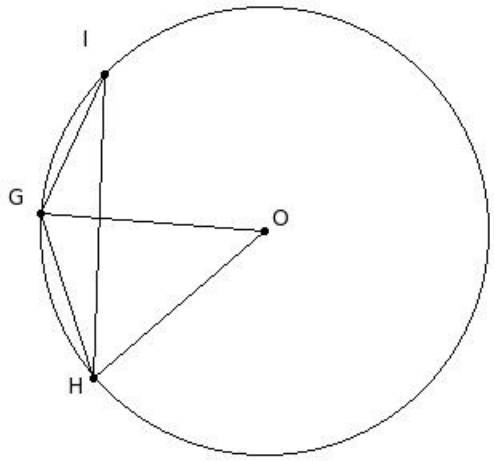
(i) 135° (ii) 110° (iii) 115° (iv) 105° (v) 120°

23. O is the centre of the circle. If ∠GEH = 35° and ∠EGF = 19°, find ∠FEG



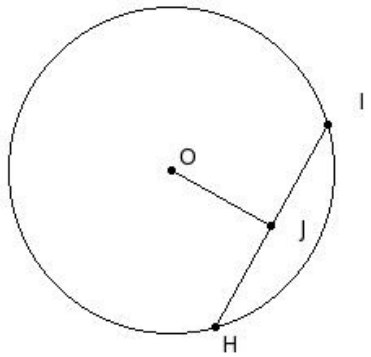
(i) 41° (ii) 66° (iii) 36° (iv) 51° (v) 46°

24. In the given figure, GH is a side of regular 9-sided polygon and GI is a side of regular 8-sided polygon inscribed in a circle with centre O. Find ∠GIH



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

25. In the given figure, O is the centre of the circle. J is a point on chord HI such that HJ = JI. Find ∠OJH



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

Assignment Key

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