EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Circles

Grade : CBSE Grade X

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

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

2. Which of the following statements are true?

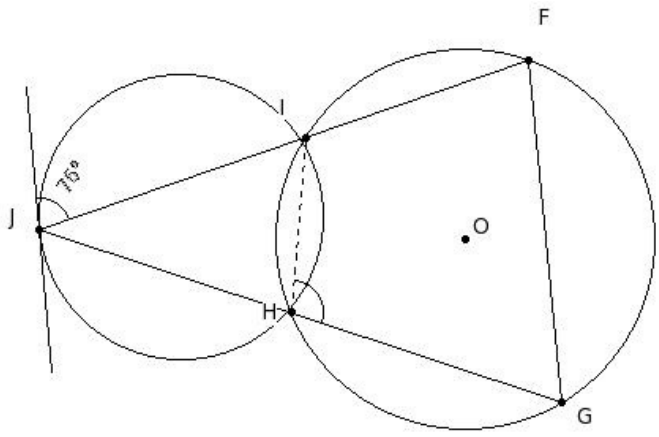
   a) Only two tangents can be drawn from a point outside the circle.
   b) Atmost one tangent can be drawn through a point inside the circle.
   c) Two tangents to a circle always intersect.
   d) Only one tangent can be drawn through a point on a circle.
   e) The sides of a triangle can be tangents to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

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

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

   (i) circumference (ii) segment (iii) centre (iv) radius (v) secant

4. In the given figure, two circles intersect at points H & I. A tangent is drawn at point J. From the same point, two lines are drawn passing through points H & I. They meet the other end of the second circle at G & F. Given ∠J = 76°, find ∠GHI



   (i) 114° (ii) 109° (iii) 134° (iv) 104° (v) 119°

5. 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) An infinite number of chords may be drawn for a circle.
   d) Every circle has a unique diameter.
   e) Two semi-circles of a circle together make the whole circle.

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

6. Which of the following figures represent a chord ?

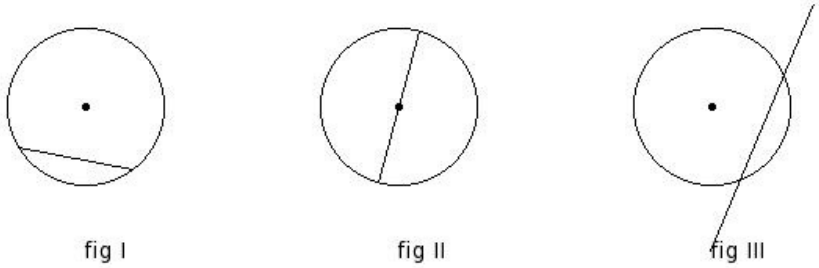


fig I fig II fig III

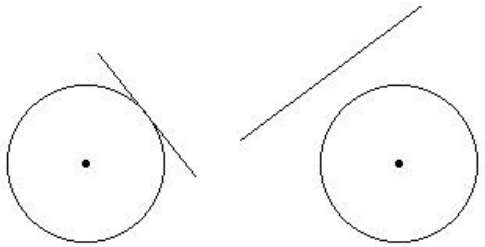


fig IV fig V

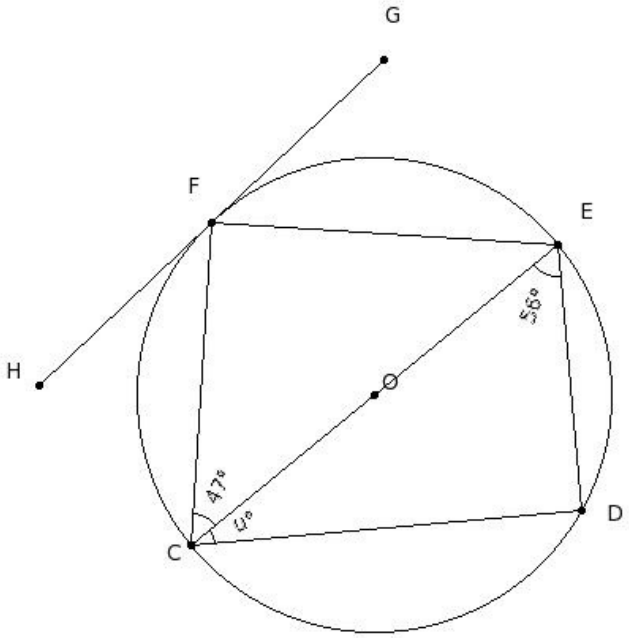
(i) fig II (ii) fig IV (iii) fig III (iv) fig I (v) fig V

7. Which of the following statements are true?

a) A maximum of four common tangents can be drawn touching any two circles.
b) Atmost two common tangents can be drawn touching any two circles.
c) Atmost one common tangent can be drawn for any two concentric circles.
d) Atmost three common tangents can be drawn touching two circles which touch each other.

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

8. In the given figure, O is the centre of the circle and GH is the tangent at F. If ∠ECF = 47° and ∠CED = 56°, find ∠ECD



(i) 34° (ii) 49° (iii) 64° (iv) 44° (v) 39°

9. Which of the following statements are true?

a) The exterior angle of a quadrilateral and its interior opposite angle are supplementary.
b) An isosceles trapezium is cyclic.
c) Either pair of opposite angles of a cyclic quadrilateral are supplementary.
d) A quadrilateral in which the diagonals are equal and bisect each other is cyclic.
e) All parallelograms are cyclic.

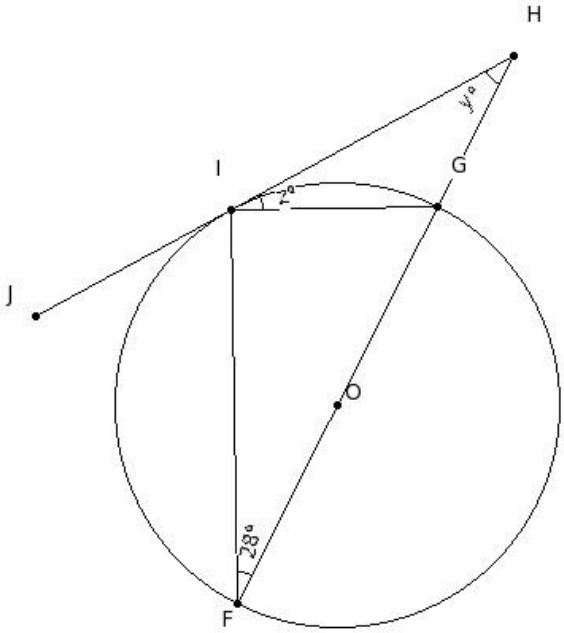
(i) {a,e,d} (ii) {a,b,c} (iii) {b,c,d} (iv) {a,b} (v) {e,c}

10. If two circles are concentric, then

(i) their radii are same (ii) their perimeters are same (iii) their diameters are same

(iv) their centres are same

11. In the given figure, O is the centre of the circle and HJ is the tangent at I. If ∠GFI = 28°, find ∠GHI + ∠GIH



(i) 72° (ii) 62° (iii) 92° (iv) 67° (v) 77°

12. Which of the following are cyclic quadrilaterals?

a) rhombus
b) rectangle
c) triangle
d) parallelogram
e) trapezium
f) square

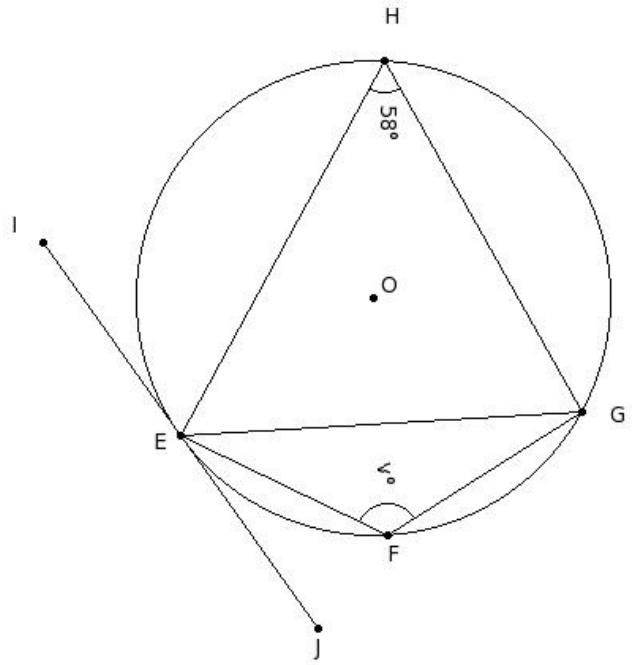
(i) {c,f} (ii) {d,e,b} (iii) {a,f,b} (iv) {a,b} (v) {b,f}

13. Which of the following statements are true?

a) Atmost one circle can be drawn passing through three non-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) Infinite circles can be drawn passing through three collinear points.
e) Only one circle can be drawn with a centre.

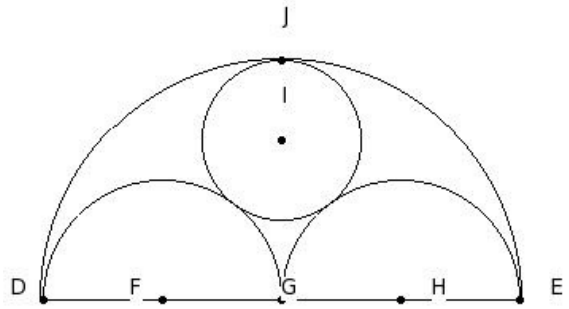
(i) {b,a} (ii) {e,b,a} (iii) {a,c} (iv) {d,c} (v) {d,c,a}

14. In the given figure, O is the centre of the circle and IJ is the tangent at E. If ∠EHG = 58°, find ∠EFG



(i) 122° (ii) 152° (iii) 137° (iv) 132° (v) 127°

15. DE is a line segment and G is its mid-point. Three semi-circles are drawn with DG , GE and DE as diameters. F , H and G respectively are the centres of these semi-circles. A new circle is drawn touching these three semi-circles. Find its radius, given DF = 8 cm



(i) 5.33 cm (ii) 7.33 cm (iii) 4.33 cm (iv) 6.33 cm (v) 3.33 cm

16. Circles having common centre are called

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

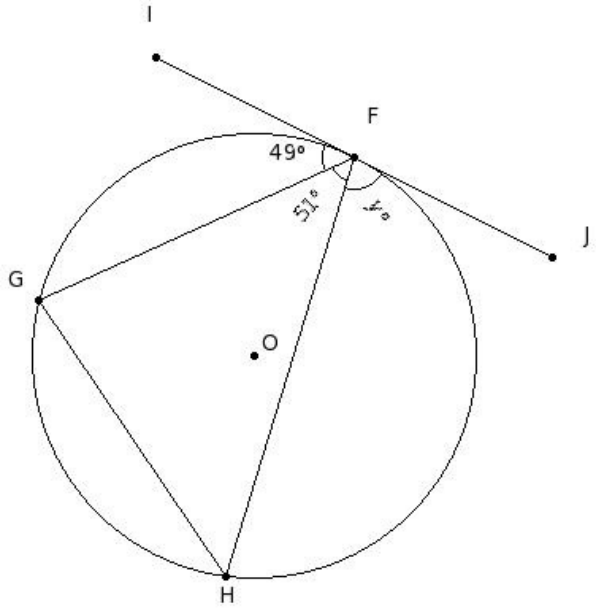
17. If the two radii OP and OQ of a circle are at right angles to each other, then the sector OPQ is called a

(i) tangent (ii) diameter (iii) secant (iv) major segment (v) quadrant

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

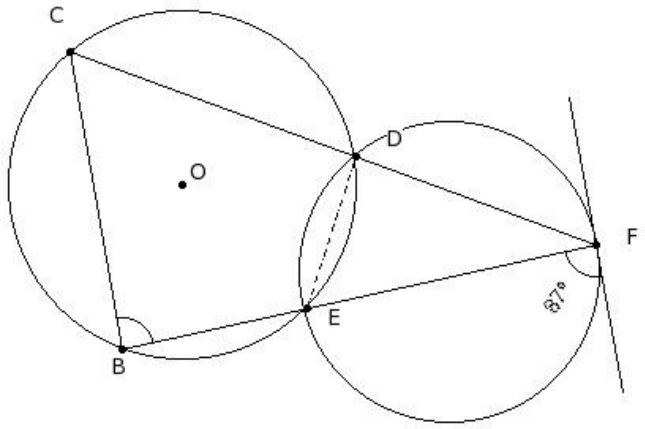
(i) 6 (ii) 0 (iii) 3 (iv) 2 (v) 4

19. In the given figure, O is the centre of the circle and IJ is the tangent at F. If ∠GFH = 51° and ∠IFG = 49°, find ∠HFJ



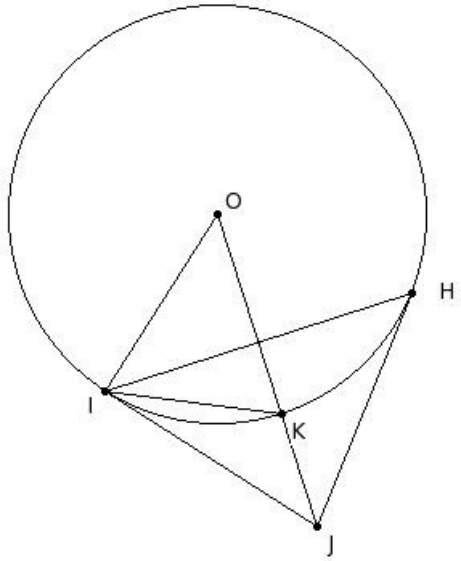
(i) 80° (ii) 95° (iii) 85° (iv) 110° (v) 90°

20. In the given figure, two circles intersect at points D & E. A tangent is drawn at point F. From the same point, two lines are drawn passing through points D & E. They meet the other end of the second circle at C & B. Given ∠F = 87°, find ∠CBE



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

21. In the given figure, JH and JI are tangent segments to the circle with centre O. Given ∠IJK = 40°, find ∠HIO



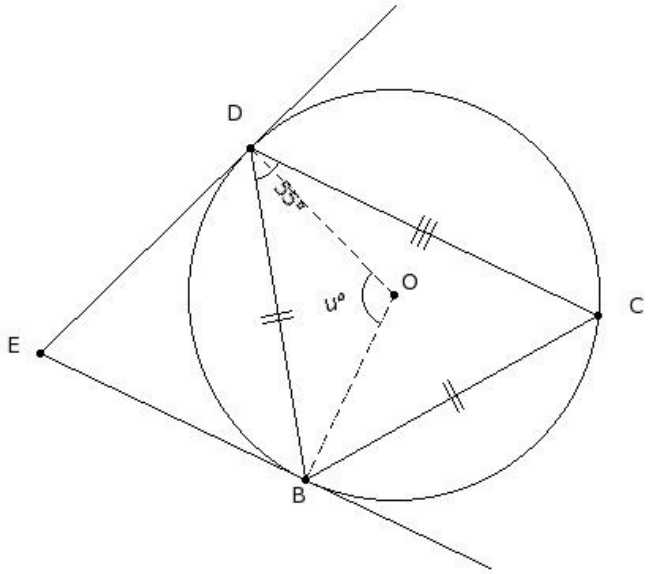
(i) 40° (ii) 50° (iii) 70° (iv) 45° (v) 55°

22. Which of the following statements are true?

a) If a rhombus is cyclic, it is a square.
b) If a trapezium is cyclic, it is a rectangle.
c) If a kite is cyclic, it is a square.
d) A cyclic quadrilateral is a regular polygon.
e) If a parallelogram is cyclic, it is a rectangle.

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

23. In the given figure, O is the centre of the circle and the tangents BE and DE meet at point E. If ∠CDB = 55°, find ∠BOD

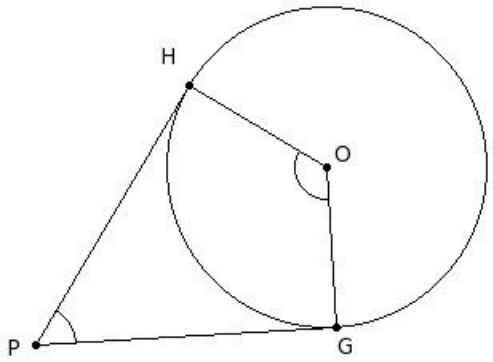


(i) 120° (ii) 110° (iii) 140° (iv) 115° (v) 125°

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

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

25. In the given figure, GP & HP are tangents to the circle with centre O. Given ∠GOH = 124°, find ∠GPH



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

Assignment Key

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