

	INDIAN SCHOOL AL WADI AL KABIR		
Class: XI	Department: SCIENCE 2026 – 27 SUBJECT: ENGINEERING GRAPHICS	Date: 06/05/2026	
Worksheet No: 2 WITH ANSWERS	UNIT 2: CIRCLES & CIRCUMFERENCES		Note: A4 FILE FORMAT
NAME OF THE STUDENT		CLASS & SEC: XI C	ROLL NO.

MULTIPLE CHOICE QUESTIONS

1. What is the centre of a circle?

- a) A point on the circumference
- b) The midpoint of the diameter
- c) The point at which two tangents meet
- d) A point outside the circle

2. What is the value of π approximately?

- a) 3.141
- b) 3.1416
- c) 3.14
- d) 3.16

3. In a circle, what is the angle subtended by a diameter at the centre?

- a) 60°
- b) 90°
- c) 180°
- d) 360°

4. What is the relationship between the radius and the diameter of a circle?

- a) The radius is half of the diameter
- b) The radius is equal to the diameter

- c) The diameter is half of the radius
- d) There is no relationship

5. Half of the diameter is called -----

- a) Transversal
- b) Radius
- c) Sector
- d) Tangent

6. The diameter divides the circle into two halves, and each of them is called-----

- a) Chord
- b) Semi-circle
- c) Quadrant
- d) Secant

7. Circles having a common centre are called -----

- a) Transversal
- b) Eccentric circles
- c) Concentric circles
- d) None of the above

8. In engineering graphics, many machine parts, such as bearings, pulleys, and gears, are circular in shape.

- a) Circular
- b) Triangular
- c) Hexagonal
- d) Pentagonal

9. The angle in a semicircle will be a -----

- a) Acute angle
- b) Right angle

c) Obtuse angle

d) None of the above

10. For the construction of a regular pentagon, the angle is -----

a) 108 degrees

b) 120 degrees

c) 90 degrees

d) 180 degrees

11. For the construction of a regular hexagon, the angle is -----

a) 90 degrees

b) 120 degrees

c) 130 degrees

d) None of the above

12. Match the LIST I with LIST II

List I – Name of the Polygon	List II – Interior angle
1. Hexagon	i. 108 degrees
2. Pentagon	ii. 140 degrees
3. Nonagon	iii. 135 degree
4. Octagon	iv. 120 degree

a) 1-iii, 2-iv, 3-i, 4-ii

b) 1-i, 2-iii, 3-ii, 4-iv

c) 1-iv, 2-i, 3-ii, 4-iii

d) 1-ii, 2-i, 3-iv, 4-iii

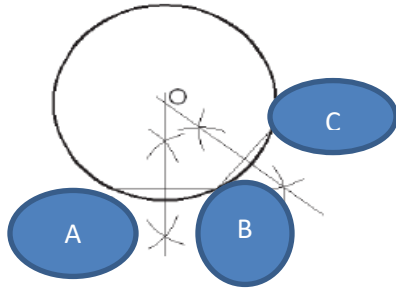
DESCRIPTIVE TYPE QUESTIONS

1. Given the arc AB, complete the circle.
2. Find the centre of a given circle.
3. Draw a circle passing through three given points A, B, and C, which are not in a straight line.
4. Construct an equilateral triangle of 60 mm and inscribe a circle in it.
5. Construct a square ABCD with diagonal AC = 80 mm and inscribe a circle in it.
6. Construct a regular pentagon with base AB = 50 mm using a protractor, and now inscribe a circle in it.
7. Construct a regular hexagon with base AB = 40 mm using a protractor, and now inscribe a circle in it.
8. Circumscribe a circle about a regular pentagon ABCDE.

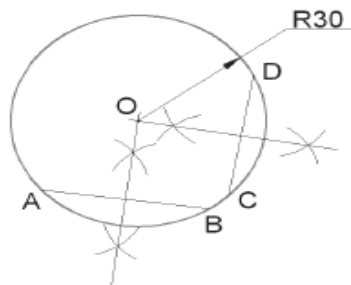
ANSWER KEY – MULTIPLE CHOICE QUESTIONS	
1	b) The midpoint of the diameter
2	b) 3.1416
3	c) 180°
4	a) The radius is half of the diameter
5	b. Radius
6	b. Semicircle
7	c. Concentric circles
8	a. Circular
9	b. Right angle
10	a. 108 degrees
11	b. 120 degrees
12	c. 1-iv, 2-i, 3-ii, 4-iii

Answers – Descriptive Type Questions

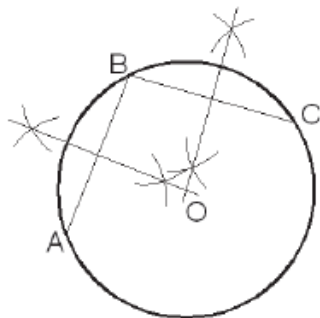
1. Hint: Draw two chords in the arc, bisect and find the centre, and complete the circle.



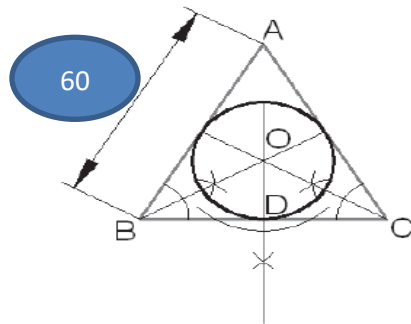
2. Hint: Draw two chords and bisect the chords to get the centre of the circle.



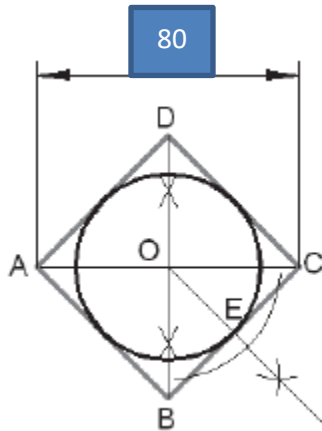
3. Hint: Join 3 points A, B, C which are not in a straight line, bisect the lines, and with the centre O, draw the circle.



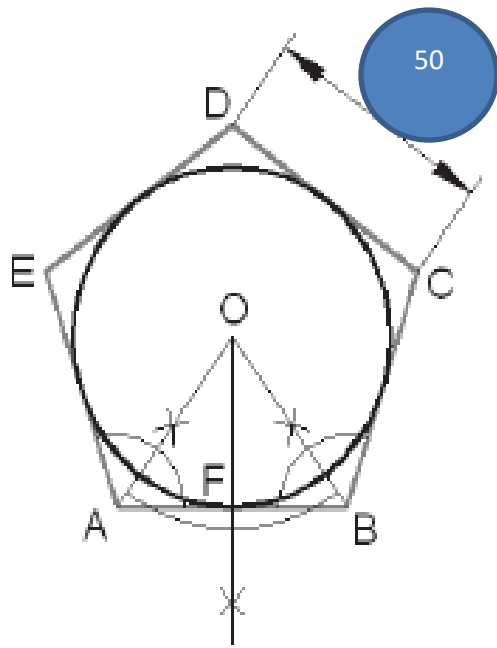
4. Hint: Draw an equilateral triangle, bisect the angle, and find the centre and inscribe a circle in it.



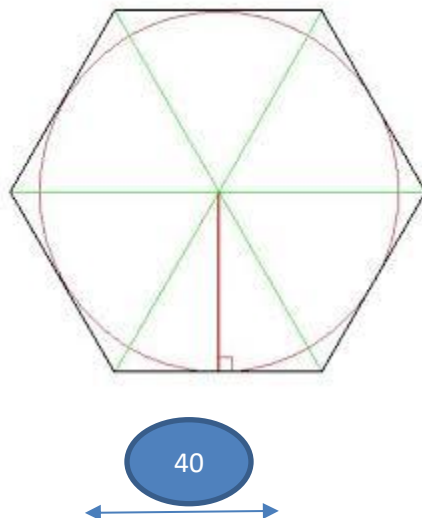
5. Hint: Draw an inclined square with diagonal AC = 80 mm, draw a perpendicular OE from the point O, O as the centre, and OE as radius, draw a circle inside the square.



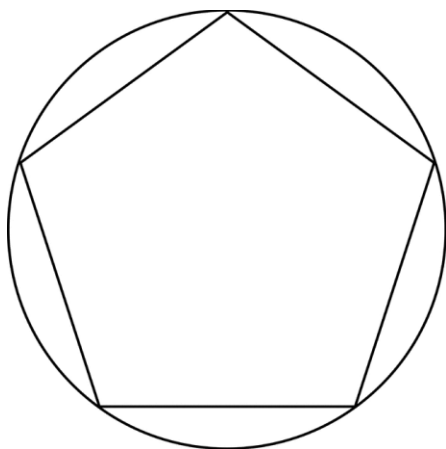
6. Hint: Draw a regular pentagon using a protractor and find the angle bisector of $\angle EAB$ and $\angle ABC$ to intersect at O. From O, draw a perpendicular (OF) to side AB. Now, with O as the centre and OF radius, draw a circle to touch all the sides of the pentagon.



7. Hint: Draw the regular hexagon whose base AB = 40 mm, join opposite corners to obtain the other two diagonals to cut at O. From O, drop a perpendicular OG on side AB, with O as the centre and OG radius, draw the required circle.



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