
	<b>INDIAN SCHOOL AL WADI AL KABIR</b>		
<b>Class: XI</b>	<b>Department: SCIENCE 2023 – 24</b> <b>SUBJECT: ENGINEERING GRAPHICS</b>	<b>Date of submission:14.05.2023</b>	
<b>Worksheet No: 1</b> <b>WITH ANSWERS</b>	<b>UNIT 1: CIRCLES &amp; ITS CIRCUMFERENCES</b>	<b>Note:</b> <b>A4 FILE FORMAT</b>	
<b>NAME OF THE STUDENT</b>	<b>CLASS &amp; SEC: XI C/E</b>	<b>ROLL NO.</b>	

### **MULTIPLE CHOICE QUESTIONS**

1. Half of diameter is called -----

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

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

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

3. Circles having a common centre is called -----

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

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

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

5. The angle in a semi circle will be a -----

- a) Acute angle
- b) Right angle
- c) Obtuse angle
- d) None of the above

6. For the construction of a regular pentagon the angle is -----

- a) 108 degree
- b) 120 degree
- c) 90 degree
- d) 180 degree

7. For the construction of a regular hexagon the angle is -----

- a) 90 degree
- b) 120 degree
- c) 130 degree
- d) None of the above

8. Match the LIST I with LIST II

<b>List I – Name of the Polygon</b>	<b>List II – Interior angle</b>
1.Hexagon	i.108 degree
2. Pentagon	ii.140 degree
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, now inscribe a circle in it.

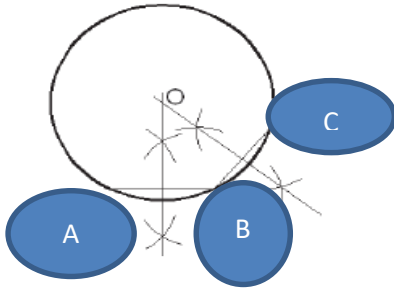
7. Construct a regular hexagon with base AB = 40 mm using a protractor, now inscribe a circle in it.

8. Circumscribe a circle about a regular pentagon ABCDE.

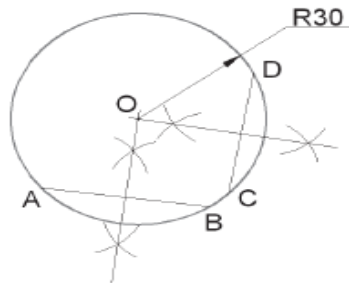
<b>ANSWER KEY – MULTIPLE CHOICE QUESTIONS</b>	
1	b. Radius
2	b. Semicircle
3	c. Concentric circles
4	a. Circular
5	b. Right angle
6	a. 108 degree
7	b. 120 degree
8	c. 1-iv, 2-i, 3-ii, 4-iii

## Answers – Descriptive Type Questions

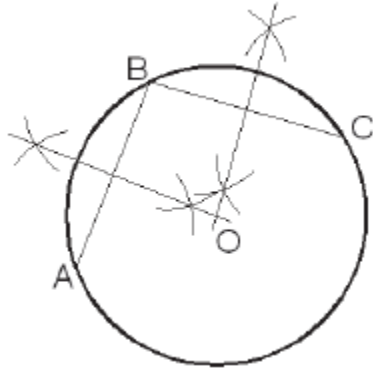
1. Hint : Draw two chord in the arc, bisect and find the centre and complete the circle.



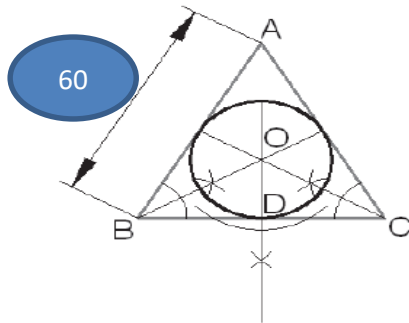
2. Hint : Draw two chords and bisect the chords to get centre of the circle.



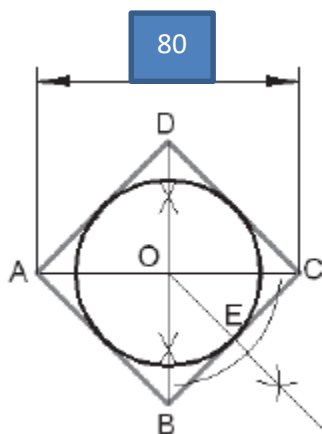
3. Hint : Join 3 points A,B,C which are not in a straight line ,bisect the lines and with the centre O, draw the circle.



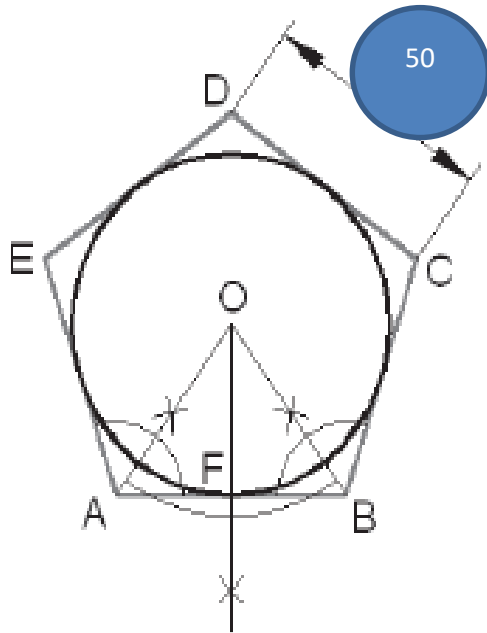
4. Hint : Draw equilateral triangle and bisect the angle and find the centre and inscribe a circle in it.



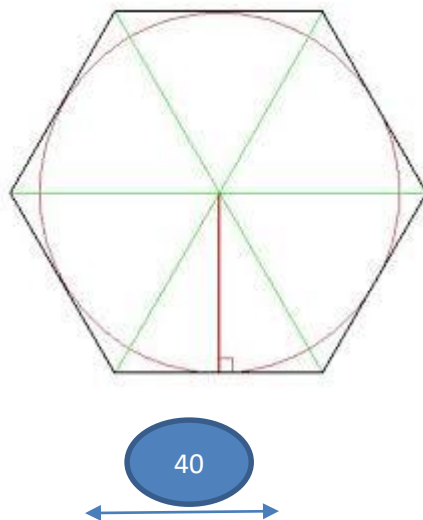
5. Hint: Draw a inclined square with diagonal AC = 80 mm, draw a perpendicular OE from the point O, O as Centre and OE as radius draw a circle inside the square.



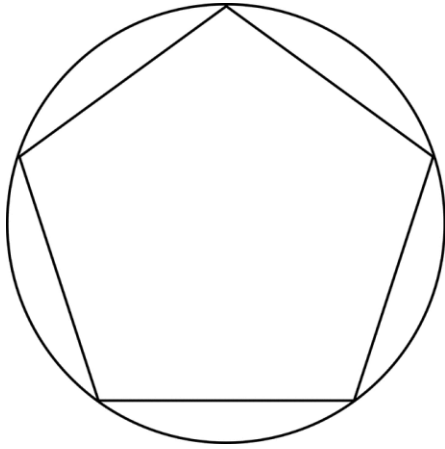
6. Hint: Draw a regular pentagon using protractor and find the angle bisector of  $\angle EAB$  and  $\angle ABC$  to intersect at O. From O draw a perpendicular (OF) to side AB, Now with O as Centre and OF radius, draw a circle to touch all the sides of the pentagon.



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, Now O as Centre and OG radius draw the required circle.



8.



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