TB(2B) Ch. 11 Areas & Volumes (II)
Multiple Choice Questions

1. [13-14 Final Exam #10]

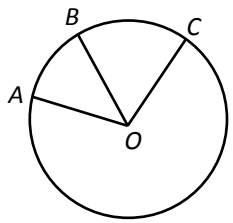
A cylindrical container of base radius 4 cm is filled with some water. When 3 identical marbles are dropped into the container and totally immersed in the water, the water level rises 6 cm. Find the volume of each marble.

A. 12π cm^3 **B.** 32π cm^3
C. 36π cm^3 **D.** 45π cm^3

2. [13-14 Final Exam #20]

In the figure, O is the centre of the circle. If $\overset{\frown}{AB} : \overset{\frown}{BC} = 2:3$, which of the following is/are true?

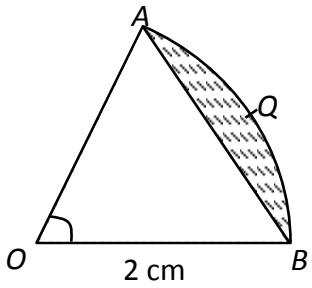
I. $\angle AOB : \angle BOC = 2 : 3$
II. Reflex $\angle AOB$: Reflex $\angle BOC = 3 : 2$
III. Area of sector AOB : Area of sector $BOC = 4 : 9$



A. I only **B.** I and II only
C. II and III only **D.** I, II and III

3. [14-15 S.6 Mock Exam #9]

In the figure, O is the center of the circle. Find the perimeter of the segment AQB correct to 3 significant figures.



A. 4.09 cm.
B. 5.09 cm.
C. 6.09 cm.
D. 7.09 cm.

4. [14-15 Final Exam #11]

If a stone is dropped into the water inside a cylinder with a base diameter 20 cm and is totally immersed in it, the water level rises by 2 cm. Find the volume of the stone.

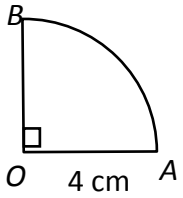
A. 100π cm^3 **B.** 200π cm^3
C. 400π cm^3 **D.** 800π cm^3

5. [14-15 Final Exam #19]

The figure shows a sector OAB with centre O and radius 4 cm. Sector OAB is the uniform

cross-section of a right prism with height 3 cm. Find the total surface area of the solid.

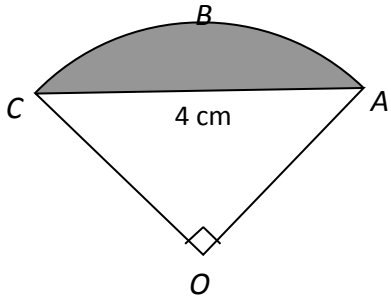
A. 4π cm^2
B. $(10\pi + 24)$ cm^2
C. $(14\pi + 24)$ cm^2
D. $(28\pi + 24)$ cm^2



6. [15-16 Final Exam #8]
The height and the curved surface area of a cylinder are 6 cm and 96π cm^2 respectively. Find the volume of the cylinder.

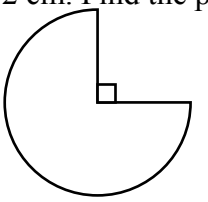
A. 96π cm^3
B. 384π cm^3
C. 576π cm^3
D. 768π cm^3

7. [15-16 Final Exam #12]
In the figure, *OABC* is a sector with $\angle COA = 90°$ and *CA* = 4 cm. Find the area of the shaded region.



A. $2(\pi - 2)$ cm^2
B. $4(\pi - 1)$ cm^2
C. $8(\pi - 2)$ cm^2
D. $8(\pi - 1)$ cm^2

8. [16-17 Final Exam #11]
In the figure, the diameter of the sector is 12 cm. Find the perimeter of the sector.
A. 28.3 cm
B. 40.3 cm
C. 68.5 cm
D. 80.5 cm



9. [17-18 Final Exam #10]
The total surface area of a cylinder with base radius 7 cm is 182π cm^2. Find its height.

A. 3 cm
B. 4 cm
C. 5 cm
D. 6 cm

10. [17-18 Final Exam #19]
In the figure, *ACO* and *BDO* are straight lines. *O* is the common centre of $\overset{\frown}{AB}$ and $\overset{\frown}{CD}$. The

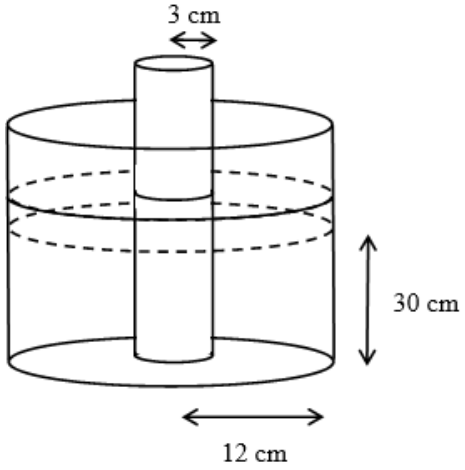
area of the shaded region is 17.5π cm^2. If OC = 15 cm and CA = 5 cm, find $\angle AOB$.

A. 30°
B. 36°
C. 42°
D. 45°

11. [17-18 Final Exam #20]

A cylindrical glass bottle of radius 12 cm contains water to a depth of 30 cm. When a cylindrical rod of base radius 3 cm is put into the glass until one of its bases reaches the bottom, the level of water rises. Find the increase in the water level.

A. 2 cm
B. 2.08 cm
C. 2.58 cm
D. 3 cm



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