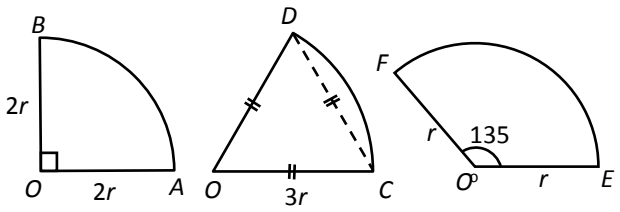
TB(2B) Ch. 11 Areas & Volumes (II)
Multiple Choice Questions

1. [12-13 Final Exam #13]

The following figures show three sectors.

Which of the following is correct?

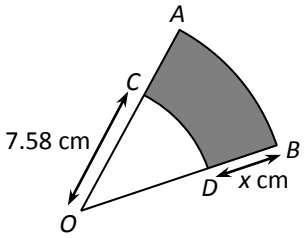
A. Arc *AB* < Arc *EF*
B. Arc *CD* < Arc *EF*
C. Arc *AB* = Arc *CD*
D. Arc *CD* = Arc *EF*



2. [12-13 Final Exam #20]

In the figure, *OAB* and *OCD* are sectors. If the area of sector *OCD* is half of the area of sector *OAB*, which of the following is true?

A. $x = 3.14$
B. $x = 7.58$
C. Arc *CD* is half of arc *AB*
D. The area of the shaded region *ABDC* is 22.6 cm^2



3. [13-14 Final Exam #10]

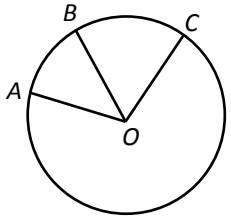
A cylindrical container of base radius 4 cm is filled with some water. When 3 identical marbles are dropped into the container and totally immersed in the water, the water level rises 6 cm. Find the volume of each marble.

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

4. [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?

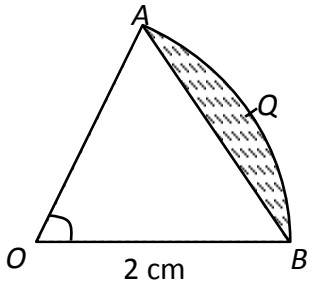
I. $\angle AOB : \angle BOC = 2 : 3$
II. Reflex $\angle AOB$: Reflex $\angle BOC = 3 : 2$
III. Area of sector *AOB* : Area of sector *BOC* = 4 : 9



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

5. [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.

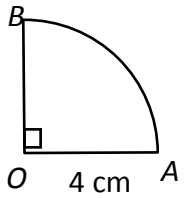
6. [14-15 Final Exam #11]

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

7. [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

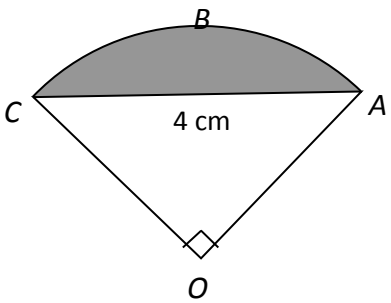
8. [15-16 Final Exam #8]

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

9. [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

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