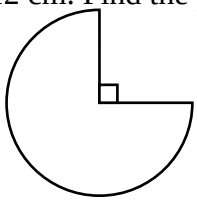
TB(2B) Ch. 12 Areas and Volumes (II)
Multiple Choice Questions

1. [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

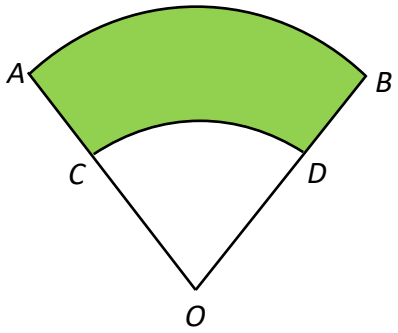
2. [17-18 Final Exam #10]

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

3. [17-18 Final Exam #19]

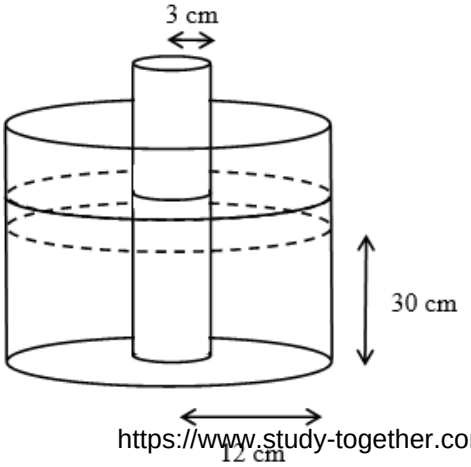
In the figure, *ACO* and *BDO* are straight lines. *O* is the common centre of $\overset{\frown}{AB}$ and $\overset{\frown}{CD}$. The area of the shaded region is 17.5π cm^2. If *OC* = 15 cm and *CA* = 5 cm, find $\angle AOB$.



A. 30°
B. 36°
C. 42°
D. 45°

4. [17-18 Final Exam #20]

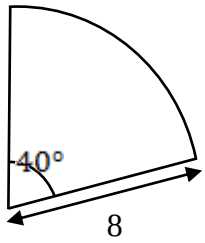
A cylindrical glass bottle of radius 12 cm contains water to a depth of 30 cm. When a cylindrical rod of base radius 3 cm is put into the glass until one of its bases reaches the bottom, the level of water rises. Find the increase in the water level.



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

5. [18-19 Final Exam #9]

Find the area of the sector in the figure.



A. 5.59 sq. units
B. 22.3 sq. units
C. 44.7 sq. units
D. 201 sq. units

6. [18-19 Final Exam #18]

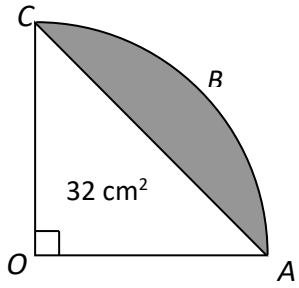
The base of a half-cylinder is a semi-circle. The base radius and height of the half-cylinder are 5 cm and 10 cm respectively. Find its total surface area.

A. $75\pi\,\text{cm}^2$
B. $(75\pi+50)\,\text{cm}^2$
C. $(75\pi+100)\,\text{cm}^2$
D. $(100\pi+100)\,\text{cm}^2$

7. [20-21 Standardized Test #10]

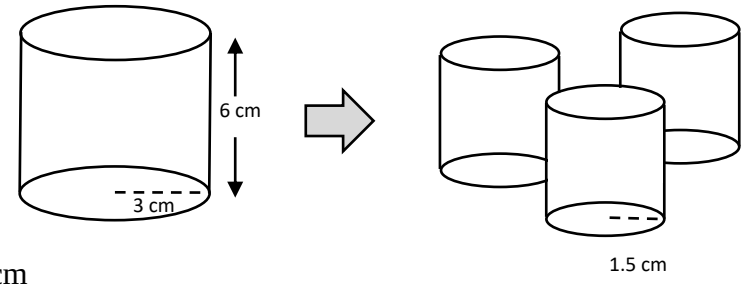
In the figure, *OABC* is a quarter circle. The area of ΔOAC is 32 cm^2. Find the area of the shaded region.

A. $8(\pi-4)\ \text{cm}^2$
B. $8(\sqrt{2}\pi-4)\ \text{cm}^2$
C. $16(\pi-2)\ \text{cm}^2$
D. $16(\sqrt{2}\pi-2)\ \text{cm}^2$



8. [20-21 Final Exam #9]

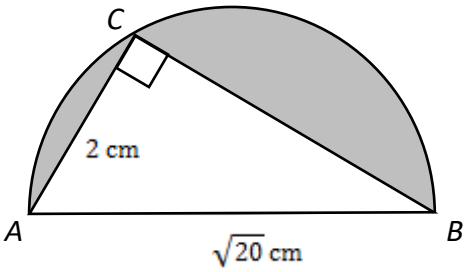
A metal cylinder with base radius 3 cm and height 6 cm is melted and recast into three smaller identical cylinders of base radius 1.5 cm. Find the height of a small cylinder.



A. 4 cm
B. 6 cm
C. 8 cm
D. 10 cm

9. [20-21 Final Exam #21]

In the figure, ACB is a semi-circle of diameter $\sqrt{20}$ cm. It is given that $\angle ACB = 90°$ and $AC = 2$ cm. Find the area of the shaded region.



A. $\frac{5\pi - 8}{2}$ cm^2

B. $\frac{5\pi - 4}{2}$ cm^2

C. $(5\pi - 4)$ cm^2

D. $(5\pi - 8)$ cm^2

~ End ~