

5. Mensuration

Starter Quiz · 课前小测

IGCSE Mathematics

Name: _____ Score: _____

1. Convert 3 m^2 to cm^2 . ($1 \text{ m}^2 = 10\,000 \text{ cm}^2$)

2. A trapezium has parallel sides 6 cm and 10 cm and height 4 cm. Find its area (cm^2).

3. A circle has radius 7 cm. Its area is $k\pi \text{ cm}^2$. What is k?

4. A cylinder has radius 5 cm and height 10 cm. Its volume is $k\pi \text{ cm}^3$. What is k?

5. To find the area of a rectangle with a semicircle on one end, you:

- ☐ add the rectangle area and the semicircle area
- ☐ multiply them
- ☐ subtract the semicircle from the rectangle
- ☐ take the larger one only

6. How many cm are there in 1 m?

7. The volume of a hemisphere of radius r is:

- ☐ $(2/3)\pi r^3$
- ☐ $(4/3)\pi r^3$
- ☐ $(1/3)\pi r^3$
- ☐ $4\pi r^2$

8. The volume of a sphere of radius r is:

- ☐ $(4/3)\pi r^3$
- ☐ $4\pi r^2$
- ☐ $\pi r^2 h$
- ☐ $(1/3)\pi r^2 h$

9. A circle with diameter 10 cm has area $100\pi \text{ cm}^2$.

- ☐ True ☐ False

10. $1 \text{ m}^2 = 100 \text{ cm}^2$.

- ☐ True ☐ False

1. **30000**

$3 \times 10\,000 = 30\,000\text{ cm}^2.$

2. **32**

$\frac{1}{2}(6 + 10) \times 4 = \frac{1}{2} \times 16 \times 4 = 32\text{ cm}^2.$

3. **49**

$\text{Area} = \pi r^2 = \pi(7^2) = 49\pi$, so $k = 49$.

4. **250**

$\text{Volume} = \pi r^2 h = \pi(25)(10) = 250\pi$, so $k = 250$.

5. **add the rectangle area and the semicircle area**

The shape is the rectangle plus the semicircle, so add the two areas.

6. **100**

$1\text{ m} = 100\text{ cm}.$

7. **$(\frac{2}{3})\pi r^3$**

Half of $(\frac{4}{3})\pi r^3$ is $(\frac{2}{3})\pi r^3$.

8. **$(\frac{4}{3})\pi r^3$**

Sphere volume = $(\frac{4}{3})\pi r^3$; $4\pi r^2$ is its surface area.

9. **False**

Radius = 5 cm, so area = $\pi(5^2) = 25\pi$, not 100π . You must halve the diameter first.

10. **False**

$1\text{ m}^2 = 100^2 = 10\,000\text{ cm}^2$, not 100 cm^2 . The conversion factor must be squared for area.