

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**

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

4. **250**

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

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. **$(2/3)\pi r^3$**

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

8. **$(4/3)\pi r^3$**

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

9. **False**

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

10. **False**

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