Checking measurement results

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Correct the claim that a 4 m by 25 cm strip has area 100 m^2. [2 marks]

25 cm is 0.25 m; $4 \times 0.25 = 1$.

Answer: 1 m^2.

2. A volume is 0.48 m^3. A student records 48 L. Correct it. [2 marks]

$0.48 \times 1000 = 480$ L.

Answer: 480 L.

3. A 10 m by 6 m floor is quoted as 600 m^2. Give an estimate and the exact area. [2 marks]

$10 \times 6 = 60$; 600 is ten times too large.

Answer: About 60 m^2; exactly 60 m^2.

4. For a closed cuboid 4 cm by 3 cm by 2 cm, a student gives 24 cm^2 as surface area. Explain and correct. [2 marks]

$4 \times 3 \times 2 = 24$ calculates volume.

$SA = 2(12 + 8 + 6) = 52$ cm^2.

Answer: 24 cm^3 is volume; surface area is 52 cm^2.

5. A calculation requires 11.2 tiles with no additional wastage. How many whole tiles must be ordered? [2 marks]

Round up to provide enough tile area.

Answer: 12 tiles.

6. A pond has radius 2 m. Estimate area with $\pi \approx 3$, then give the calculator value to one decimal place. [2 marks]

Estimate $3 \times 2^2 = 12$.

$4\pi \approx 12.566$, which rounds to 12.6.

Answer: Estimate 12 m^2; calculator value 12.6 m^2.