

Question 1

A student determines the density of copper.

She has a rectangular block of copper.

Which other apparatus does she need?

	balance	ruler	stop-watch	thermometer
A	✓	✓	✓	✓
B	✓	✓	✓	✗
C	✓	✓	✗	✗
D	✓	✗	✗	✗

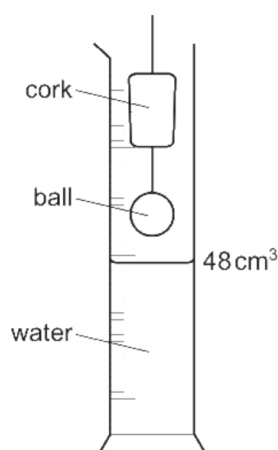
key

✓ = needed

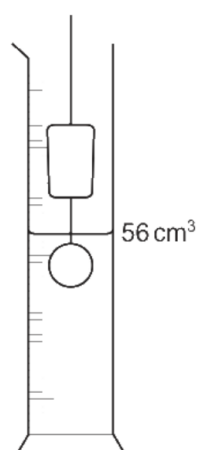
✗ = not needed

Question 2

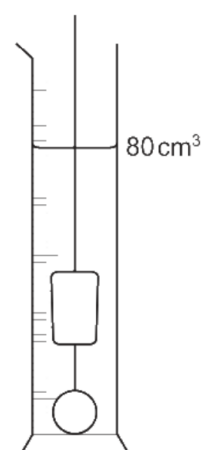
A metal ball is attached to a cork and is lowered into a measuring cylinder, pulling the cork into the water, as shown.



ball and cork
above the water



ball fully submerged
but cork above the water



both ball and cork
fully submerged

The mass of the cork is 4.8 g.

What is the density of the cork?

- A** 0.15 g/cm³ **B** 0.20 g/cm³ **C** 0.60 g/cm³ **D** 5.0 g/cm³

Question 3

A rectangular metal block is 20 cm long.

The cross-sectional area of the block is 25 cm².

The mass of the block is 4000 g.

What is the density of the metal?

A 0.13g/cm³

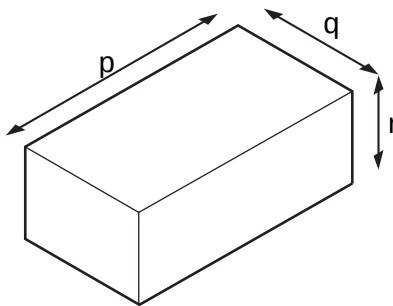
B 0.32g/cm³

C 8.0g/cm³

D 2000g/cm³

Question 4

The diagram shows the dimensions of a solid rectangular block of metal of mass m .



Which expression is used to calculate the density of the metal?

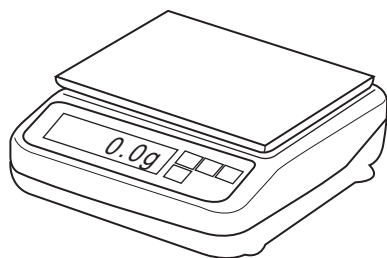
A $\frac{m}{(p \times q)}$

B $\frac{m}{(p \times q \times r)}$

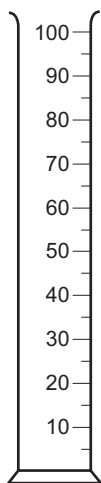
C $m \times p \times q$

D $m \times p \times q \times r$

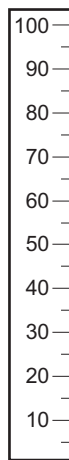
Question 5



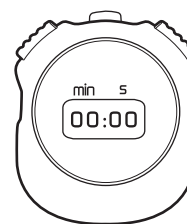
balance



measuring
cylinder



ruler



stop-watch

Which pieces of apparatus are used to find the density of a liquid?

- A** balance and stop-watch
- B** balance and measuring cylinder
- C** measuring cylinder and ruler
- D** stop-watch and ruler

Question 6

A rectangular gymnasium is 50 m long, 25 m wide and 8.0 m high.

The density of air is 1.2 kg / m^3 .

What is the best estimate of the mass of air in the gymnasium?

- A** 0.00012 kg **B** 100 kg **C** 8300 kg **D** 12 000 kg

Question 7

A girl has a gold necklace.

Which apparatus does she need to find the density of the gold?

	balance	measuring cylinder	thermometer	ruler
A	✓	✓	✓	✓
B	✓	✓	✓	x
C	✓	✓	x	x
D	✓	x	x	x

key

✓ = needed

x = **not** needed

Question 8

Which property of an object is a consequence of the effect of a gravitational field acting on it?

- A** density
- B** mass
- C** volume
- D** weight