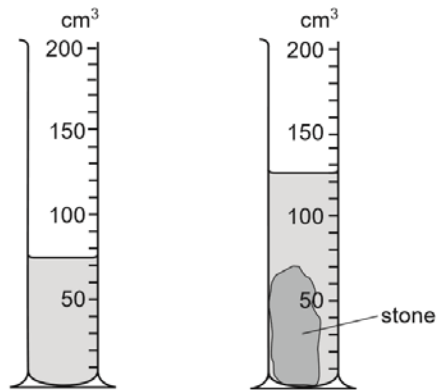|	
33.	A measuring cylinder contains some water. When a stone is put in the water, the level rises.

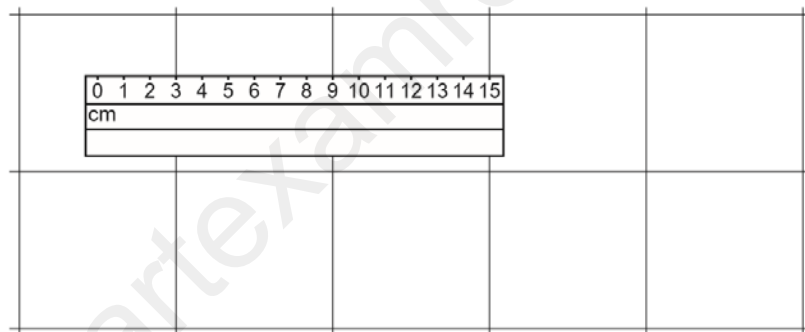What is the volume of the stone?

A 50 cm^3 **B** 70 cm^3 **C** 75 cm^3 **D** 125 cm^3 |
| Ans: | A |

34.	A floor is covered with square tiles. The diagram shows a ruler on the tiles.

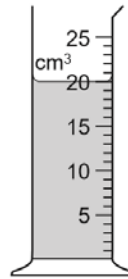How long is one tile?

A 3 cm   **B** 6 cm   **C** 9 cm   **D** 12 cm |
| Ans: | B |

35.	The diagram shows some liquid in a measuring cylinder. The mass of the liquid is 16 g.

What is the density of the liquid?

A 320 g/cm^3 **B** 36 g/cm^3 **C** 1.25 g/cm^3 **D** 0.8 g/cm^3

Ans:	D

36.	A metal drum has a mass of 200 kg when empty and 1000 kg when filled with 1.0 m^3 of methylated spirit.

What is the density of methylated spirit?

A 0.0050 kg/m^3

B 0.11 kg/m^3

C 800 kg/m^3

D 1000 kg/m^3

Ans:	C

37.	What are the correct units for force and for weight?

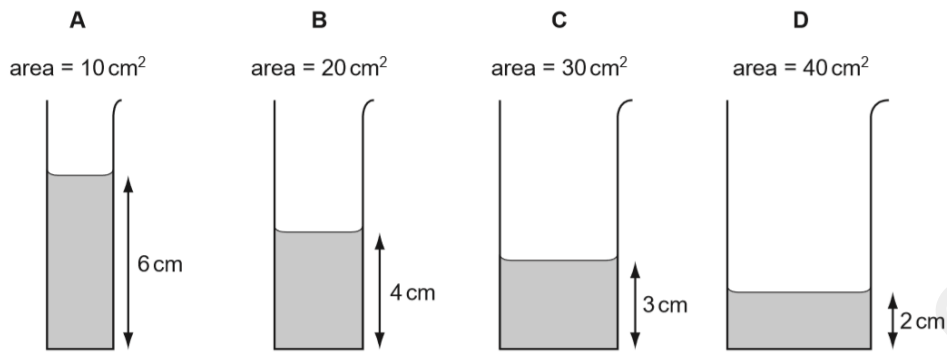|	force	weight
A	kg	kg
B	kg	N
C	N	kg
D	N	N

Ans:	D

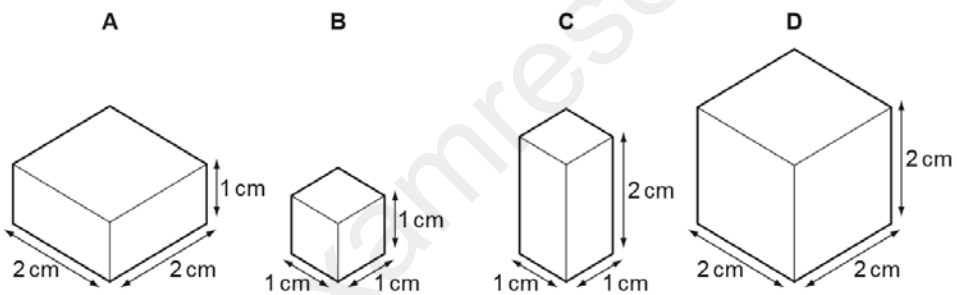| 38.	Some water is poured into four tubes of different cross-sectional areas.
	Which tube contains the largest volume of water?

	A	**B**	**C**	**D**
	area = $10\,cm^2$	area = $20\,cm^2$	area = $30\,cm^2$	area = $40\,cm^2$
	6 cm	4 cm	3 cm	2 cm

Ans:	C

39.	Each of the solids shown in the diagram has the same mass.
	Which solid has the greatest density?

A — 2 cm × 2 cm × 1 cm

B — 1 cm × 1 cm × 1 cm

C — 1 cm × 1 cm × 2 cm

D — 2 cm × 2 cm × 2 cm

Ans:	B

40.	Which of the following is a unit of density?
	A cm^3/g **B** g/cm^2 **C** g/cm^3 **D** kg/m^2

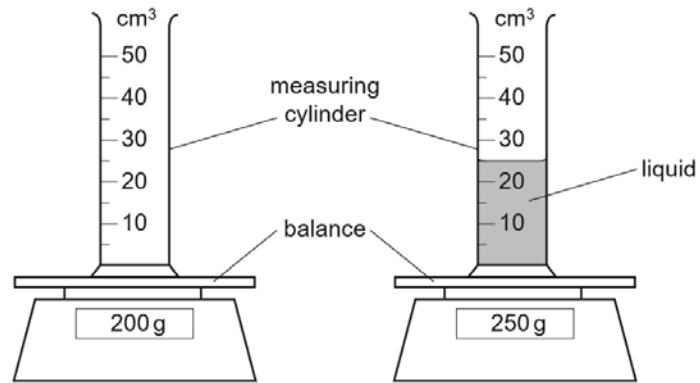| Ans:	C

41.	The diagram shows an experiment to find the density of a liquid.

What is the density of the liquid?

A 0.5 g/cm³   **B** 2.0 g/cm³   **C** 8.0 g/cm³   **D** 10.0 g/cm³

Ans:	B

42.	The diagram shows a rectangular metal block measuring $10\,cm \times 5.0\,cm \times 2.0\,cm$.
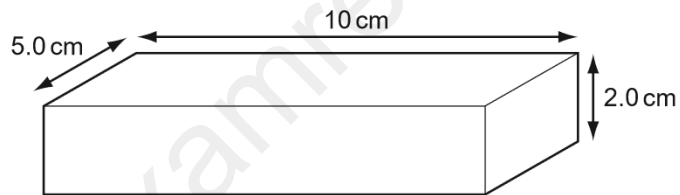
Its mass is 250 g.

What is the density of the metal?

A 0.20 g/cm³   **B** 0.40 g/cm³   **C** 2.5 g/cm³   **D** 5.0 g/cm³
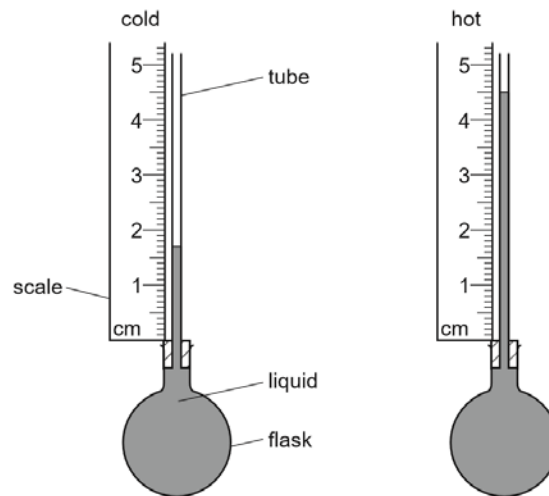
Ans:	C

43.	Some liquid is heated in a flask.

The diagrams show the height of the liquid in the tube when the liquid is cold and when it is hot.

What is the difference in the heights?

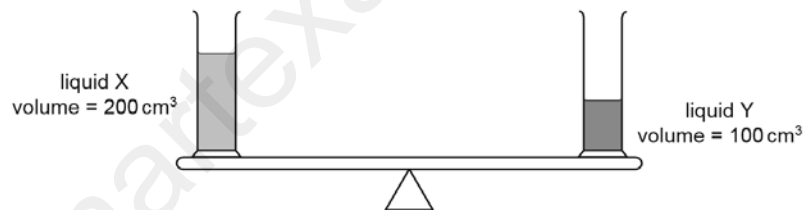**A** 1.7 cm   **B** 2.8 cm   **C** 3.2 cm   **D** 4.5 cm

Ans:	B

44.	Two identical measuring cylinders containing different liquids are placed on a simple balance.

They balance as shown.

liquid X
volume = 200 cm³

liquid Y
volume = 100 cm³

How does the density of X compare with the density of Y?

A density of X = $\frac{1}{2}$ × density of Y

B density of X = density of Y

C density of X = 2 × density of Y

D density of X = 4 × density of Y

Ans:	A

| 45. | Two digital stopwatches X and Y, which record in minutes and seconds, are used to time a race.

The readings of the two stopwatches, at the start and at the end of the race, are shown.

| | start | end |
| X | 00:00 | 00:40 |

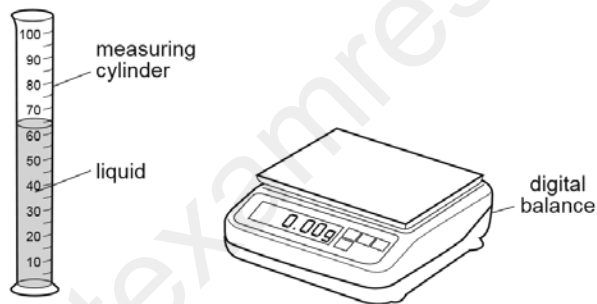| | start | end |
| Y | 01:30 | 02:20 |

Which statement about the time of the race is correct?

A   Both stopwatches recorded the same time interval.

B   Stopwatch X recorded 10 s longer than stopwatch Y.

C   Stopwatch Y recorded 10 s longer than stopwatch X.

D   Stopwatch Y recorded 50 s longer than stopwatch X. |

| Ans: | C |

| 46. | A student pours liquid into a measuring cylinder.

The student records the volume of the liquid from the scale on the measuring cylinder. He then puts the measuring cylinder containing the liquid on a balance and records the mass.

What else needs to be measured before the density of the liquid can be calculated?
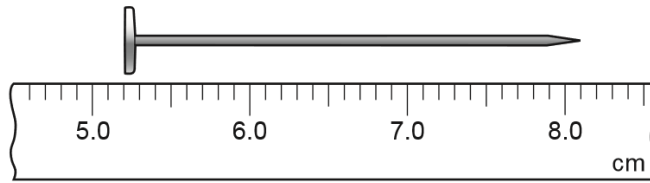
A   the depth of the liquid in the measuring cylinder

B   the mass of the empty measuring cylinder

C   the temperature of the liquid in the measuring cylinder

D   the volume of the empty measuring cylinder |

| Ans: | B |

47.	A ruler is used to measure the length of a nail. What is the length of the nail? **A** 1.3 cm **B** 2.9 cm **C** 5.2 cm **D** 8.1 cm
Ans:	B