# MEASURING DENSITY-SET-3

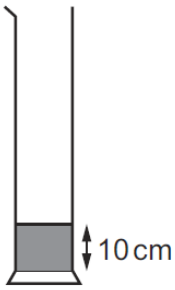
1

Four different liquids are poured into four containers.

The diagrams show the depth and the density of liquid in each container.

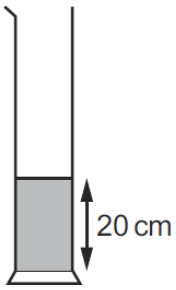
In which container is the pressure on its base the greatest?

**A**



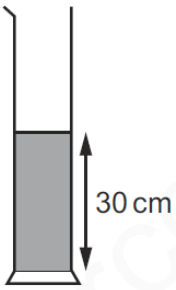

liquid density = $3.1\,g/cm^3$

**B**



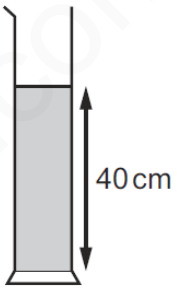

liquid density = $1.2\,g/cm^3$

**C**




liquid density = $1.3\,g/cm^3$

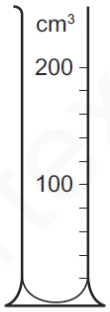
**D**



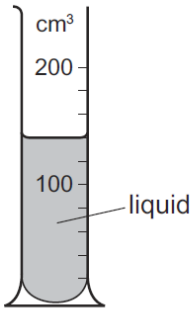

liquid density = $0.8\,g/cm^3$

2

The masses of a measuring cylinder before and after pouring some liquid into it are shown in the diagram.




mass = 80 g




mass = 180 g

What is the density of the liquid?

**A** $\frac{100}{120}\,g/cm^3$ **B** $\frac{100}{140}\,g/cm^3$ **C** $\frac{180}{120}\,g/cm^3$ **D** $\frac{180}{140}\,g/cm^3$

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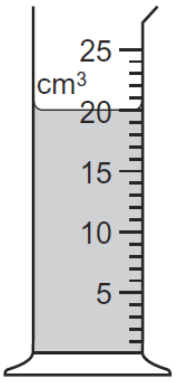
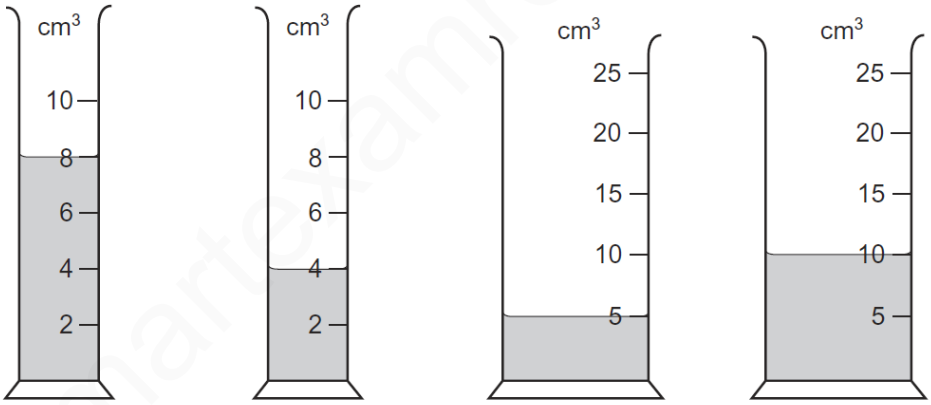
|---|---|
| 3 | The diagram shows some liquid in a measuring cylinder. The mass of the liquid is 16 g.<br>  <br><br>What is the density of the liquid?<br>**A** 320 g / cm³ **B** 36 g / cm³ **C** 1.25 g / cm³ **D** 0.8 g / cm³ |
| | |
| 4 | The same mass of four different liquids is placed in some measuring cylinders.<br>Which measuring cylinder contains the liquid with the greatest density?<br>**A** **B** **C** **D**<br>  <br> |
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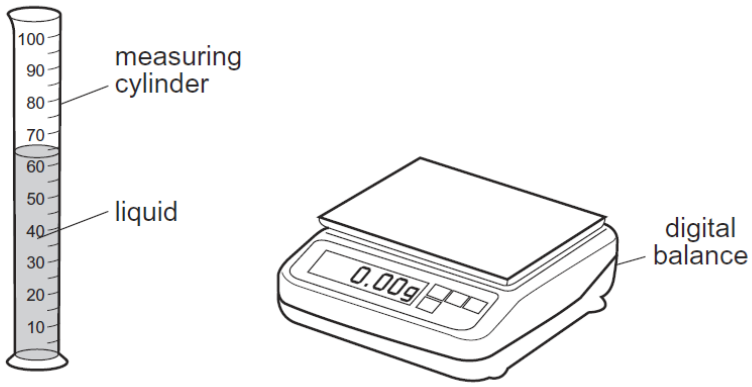
|---|---|
| 5 | A student pours liquid into a measuring cylinder.<br>  <br><br>The student records the volume of the liquid from the scale on the measuring cylinder. He then puts the measuring cylinder containing the liquid on a balance and records the mass.<br>What else needs to be measured before the density of the liquid can be calculated?<br>**A** the depth of the liquid in the measuring cylinder<br>**B** the mass of the empty measuring cylinder<br>**C** the temperature of the liquid in the measuring cylinder<br>**D** the volume of the empty measuring cylinder |
| | |
| 6 | A student is trying to find the density of water and of a large, regularly-shaped solid.<br>Which apparatus is needed to find the density of **both**?<br>**A** balance, clock, ruler<br>**B** balance, measuring cylinder, ruler<br>**C** balance, measuring cylinder, string<br>**D** clock, ruler, string |
| | |

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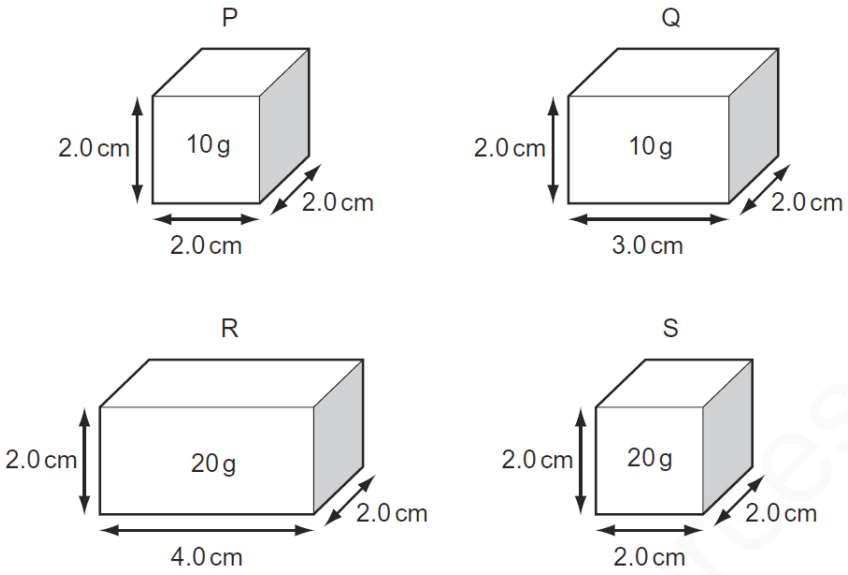
7

Four rectangular blocks, P, Q, R and S are shown. Each block is labelled with its size and its mass.




Which two blocks have the same density?

**A** P and Q **B** P and R **C** Q and R **D** R and S

8

Diagram 1 shows an empty measuring cylinder on a balance.

Diagram 2 shows the same measuring cylinder on the balance, but it now contains a liquid.

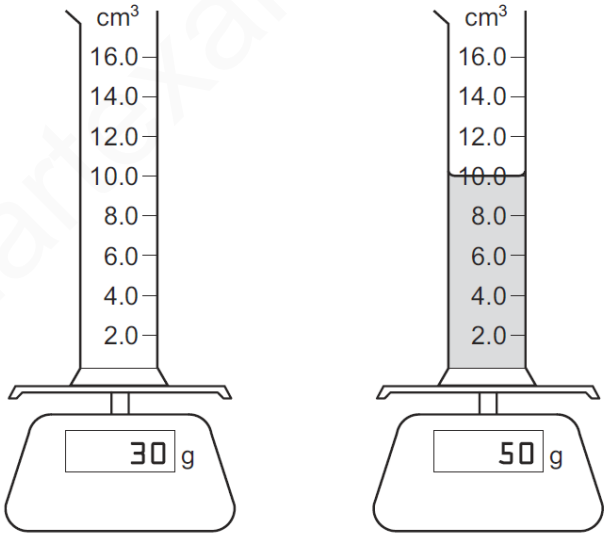



diagram 1 diagram 2

What is the density of the liquid?

**A** $0.2\,g/cm^3$ **B** $0.5\,g/cm^3$ **C** $2.0\,g/cm^3$ **D** $5.0\,g/cm^3$

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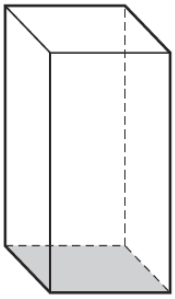
9

A student wishes to determine the density of the solid block shown.



Which quantities must be known?

**A** the area of the shaded face and the volume of the block

**B** the area of the shaded face and the weight of the block

**C** the mass of the block and the height of the block

**D** the mass of the block and the volume of the block

10

The mass of a piece of metal is 1200 g.

A measuring cylinder contains 150 $cm^3$ of water.

The piece of metal is put into the measuring cylinder. The water level rises to 250 $cm^3$ and covers the metal.

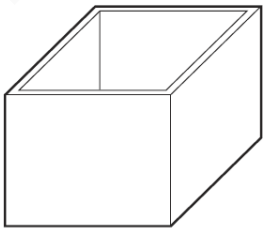
What is the density of the metal?

**A** 3.0 g / $cm^3$ **B** 4.8 g / $cm^3$ **C** 8.0 g / $cm^3$ **D** 12.0 g / $cm^3$

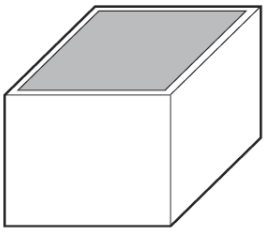
11

The diagrams show an empty rectangular box, and the same box filled with liquid.

The box has a mass of 60 g when empty. When filled with liquid, the total mass of the box and the liquid is 300 g.



empty box
60 g



box filled with liquid
300 g

The density of the liquid is 1.2 g / $cm^3$.

What is the volume of the liquid in the box?

**A** 50 $cm^3$ **B** 200 $cm^3$ **C** 250 $cm^3$ **D** 300 $cm^3$

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