**Physical Quantities – 2019 Nov IGCSE**

**1.** 0625/31/O/N/19/No.1

Fig. 1.1 shows a plastic water barrel. The barrel is full of water.

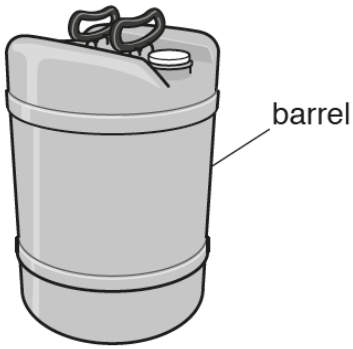


**Fig. 1.1**

**(a)** The water barrel contains 0.050 $m^3$ of pure water. The density of pure water is 1000 $kg/m^3$.

Calculate the mass of pure water in the barrel.

mass of water = ..... kg [3]

**(b)** The density of sea water is 1030 $kg/m^3$. The density of the plastic is 1000 $kg/m^3$. Use this information and the information in **(a)** to state and explain whether the full barrel will float in sea water.

statement .....

explanation .....

.....

.....

[2]

[Total: 5]

**2.** **(a)** A student has an irregularly shaped piece of metal, a beaker of water and a measuring cylinder, as shown in Fig. 2.1.

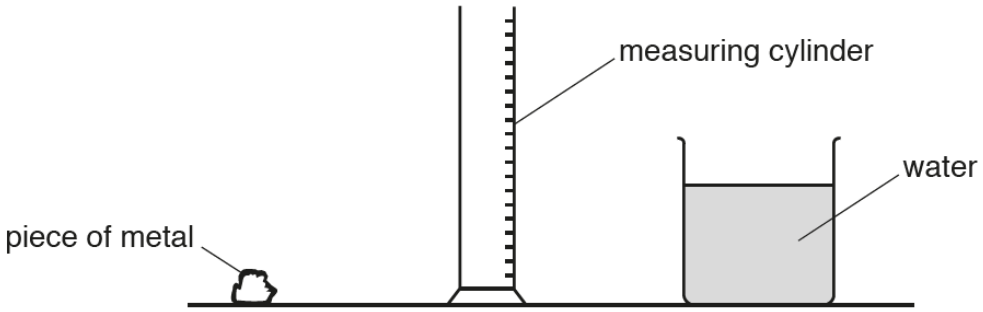


**Fig. 2.1**

Describe how the student can accurately determine the volume of the piece of metal using the equipment provided.

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.....

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..... [4]

**(b)** The student measures the mass of the piece of metal. Its mass is 146 g.

**(i)** State the name of the instrument used to measure the mass.

..... [1]

**(ii)** The volume of the piece of metal is 20 $cm^3$.
Calculate the density of the metal. State the unit.

density = ..... [4]

[Total: 9]