

1 Introducing science

1.1 Laboratory safety

- 1 Which of the following is **not** a laboratory rule?
- A Report all accidents immediately to the teacher.
 - B Keep the work bench dry and tidy.
 - C Do not consume food in the laboratory.
 - D Return surplus chemicals to the containers.
- 2 After Salmah has finished doing some experiments involving chemical solutions what should she do?
- A Wipe her hands with wet towels.
 - B Wash her hands thoroughly with water.
 - C Apply some lotion on her hands.
 - D Wipe her hands with her clothes.
- 3 The following are some safety rules in a laboratory. Which one is **not** correct?
- A Do not eat or drink in the laboratory.
 - B Do not taste chemicals in the laboratory.
 - C Do not report any injury, however small, to the teacher.
 - D Do not run in the laboratory
- 4 What should you do if you accidentally spill some chemicals on your hand ?
- A Cry and shout.
 - B Wash it thoroughly with water and report to the teacher.
 - C Sit quietly and don't tell anyone.
 - D Wait until you go back home and wash it.
- 5 Which of the following is the **correct** laboratory rule?
- A Eating in the laboratory while doing practical during lunch time.
 - B Running in the laboratory when he is in a hurry.
 - C Poking the electrical power points with sharp objects.
 - D Using the apparatus in the laboratory only when told to do so by the science teacher.
- 6 Ali would like to heat a test-tube containing chemical X over a Bunsen burner. How should Ali carry out the heating?
- A Holding the test-tube with his bare hands.
 - B Holding the test-tube with a piece of cloth.
 - C Holding the test-tube using a test-tube holder.
 - D Holding the test-tube with tongs.
- 7 When pouring concentrated acid from a reagent bottle into a test-tube, which of the following is the **best** method of holding the bottle ?
- A Holding the base of the bottle
 - B Holding the bottle where its label is
 - C Holding the bottle by its neck
 - D Holding the bottle with both hands

8 A student working in a laboratory accidentally spilled concentrated hydrochloric acid on his hand. The most practical thing to do is

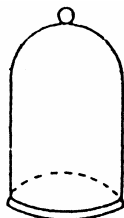
- A to go to the hospital immediately
- B to rub the hand with a wet towel
- C to rub the hand with a dry towel
- D to wash the hand quickly under running water

1.2 Handling common laboratory apparatus

1 A is used to measure the volume of a liquid.

- A Gas-jar
 B Measuring cylinder
 C Small beaker
 D Conical flask

2 The apparatus shown in the figure is a

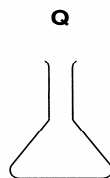
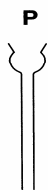


- A beaker
 B bell-jar
 C conical flask
 D flat-bottomed flask

3 Which of the following apparatus is the **best** one to use for measuring a fixed volume of liquid accurately?

- A Beaker
 B Cup
 C Gas jar
 D Pipette

4 Name the apparatus P and Q as shown in the figure. (99)



Apparatus P

Apparatus Q

- | | |
|------------------|---------------------|
| A Filter funnel | Conical flask |
| B Filter funnel | Flat bottomed flask |
| C Thistle funnel | Conical flask |
| D Thistle funnel | Flat bottomed flask |

5 If the air holes of a bunsen burner are fully opened the flame will be

- A short , non-luminous and hot.
 B short , luminous and hot.
 C long , sooty and non-luminous.
 D short , sooty and not hot.

6 Mohammad uses a bunsen burner. He closes the air-hole. The flame of the burner will be

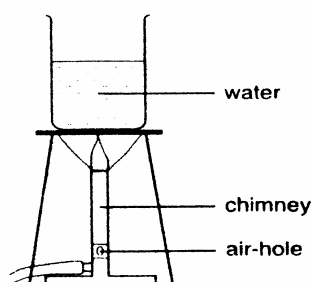
- A colourless
 B blue
 C non-luminous
 D luminous

1.2 Handling common laboratory apparatus

7 Which of the following is the correct sequence used to light a Bunsen burner? (95)

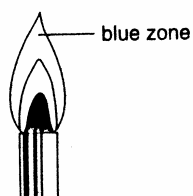
- I Close the air holes
 II Open the air holes
 III Place the lighted match on the mouth of the burner
 IV Turn on the gas slowly
- A I, III, IV, II
 B I, IV, III, II
 C II, III, IV, I
 D III, I, IV, II

8 Marinah wants to heat the water in the beaker as shown in the figure. (97PMB)



Besides lighting the bunsen burner, what should she do in order to heat the water with the hottest flame?

- A Clean the chimney
 B Close the air-hole completely
 C Leave the air-hole half open
 D Open the air-hole completely
- 9 Which of the following is the correct statement related to the bunsen flame shown in the figure? (97BJCE)



- A It is a non-luminous flame.
 B It produces soot.
 C Its temperature is low.
 D The air hole is closed.
- 10 Which of the following is the proper technique of lighting a bunsen burner? (2000S)

- A Close the air hole → Turn the gas tap on → Light the burner
 B Open the air hole → Turn the gas tap on → Light the burner
 C Turn the gas tap on → Light the burner → Close the air hole
 D Turn the gas tap on → Open the air hole → Light the burner

1.2 Handling common laboratory apparatus

11 The non-luminous flame of a bunsen burner is (2000IS)

A blue in colour
B sooty

C red in colour
D yellow in colour

12 B

13 A

1.3 (a) Measurements

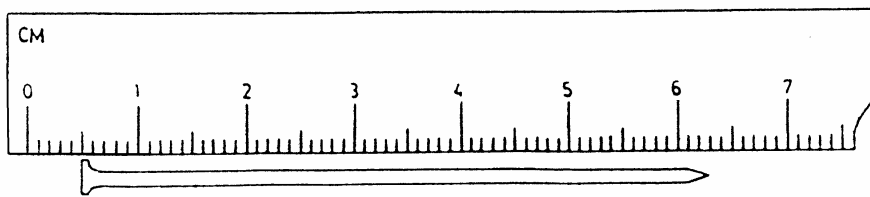
1 A teacher asks a pupil to measure the width of the science laboratory table. Which one of the following instruments should he choose? (96)

- A a measuring tape
- B a pair of dividers
- C a pair of external calipers
- D a 30-centimeter rule

2 How many centimeters are there in one kilometer?

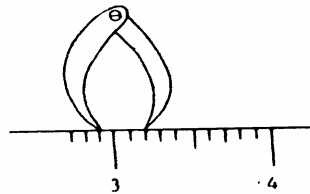
- A 100 cm
- B 1 000 cm
- C 10 000 cm
- D 100 000 cm

3 The length of the nail in the figure is



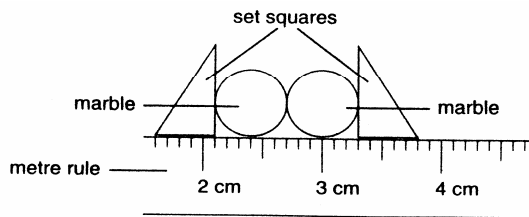
- A 5.6 cm
- B 5.8 cm
- C 6.3 cm
- D 6.8 cm

4 The figure shows the instrument used to measure the external diameter of an iron rod. The diameter is



- A 0.3 cm
- B 2.9 cm
- C 3.0 cm
- D 3.2 cm

5 Two marbles of equal diameters were arranged on a metre rule as shown in the figure. (99)

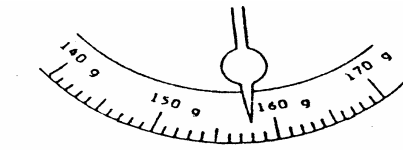


The diameter of one marble is

- A 0.6 cm
- B 1.2 cm
- C 2.7 cm
- D 3.3 cm

1.3 (a) Measurements

6 What is the mass reading shown by the pointer?



- A 162 g B 158 g C 154 g D 150.8 g

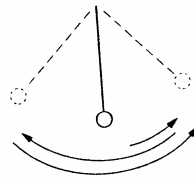
7 A student carries out an experiment to determine the mass of paraffin oil in a beaker. The readings obtained from the experiment are as follows:

Mass of empty beaker	= 45.3g
Mass of beaker + paraffin oil	= 115.3g

What is the mass of the paraffin oil? (2000S)

- A 45.3g B 70.0g C 115.3g D 160.6g

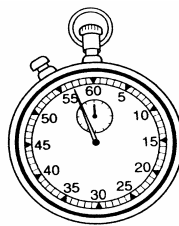
8 The arrow in the figure shows the swing of a pendulum.



How many times does the pendulum swing? (97PMB)

- A 1 B 1¼ C 2½ D 5

9 Rosli recorded the time taken for the car to travel from one point to another as shown in the figure.

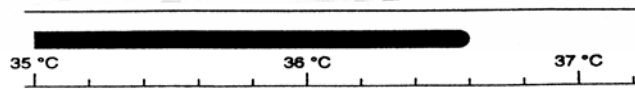


The reading of the stop watch is (2000S)

- A 55.2s B 55.4s C 56.2s D 57.0s

1.3 (a) Measurements

10 The figure shows part of a clinical thermometer.



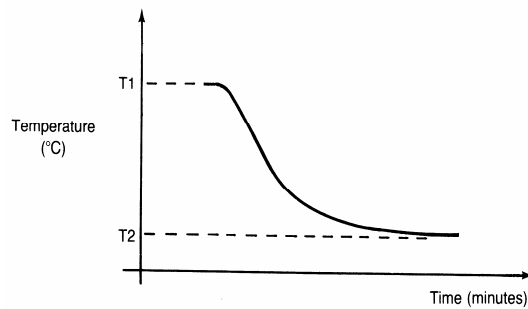
What is the temperature shown ?

- A 35.0 °C B 36.3 °C **C 36.6 °C** D 36.8 °C

11 The normal body temperature of a person is

- A 98.4°C **B 37.0°C** C 27.9°C D 26.9°C

12 The following graph shows pure boiling water being cooled to room temperature. What is the temperature T_1 ?



- A 35°C B 75°C **C 100°C** D 105°C

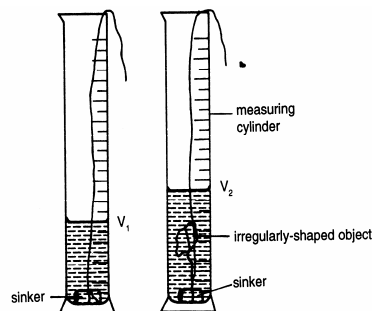
13 Aminah wants to measure 75 cm³ of water. Which of the following will she use ?

- A Beaker B Conical flask C Gas jar **D Measuring cylinder**

14 The volume of an object is

- A the largest surface area
 B the total amount of matter in the object
 C the product of its density and mass
D the total space it occupies

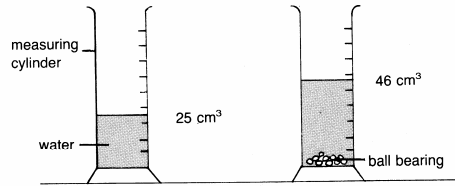
15 The figure shows an experiment to find the volume of an irregular-shaped object. The volume of the object can be determined by the formula



- A $V_1 + V_2$ B $V_1 - V_2$ **C $V_2 - V_1$** D $V_1 \times V_2$

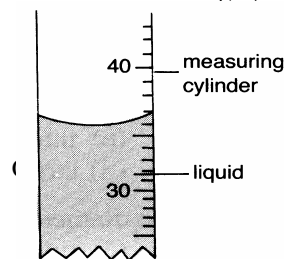
1.3 (a) Measurements

16 A total of 10 ball bearings of equal size were poured into a measuring cylinder. The volume of 1 ball bearing is ?



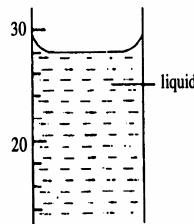
- A 1.1 cm³ B 2.1 cm³ C 11 cm³ D 21 cm³

17 In the figure shown, the volume of water in the measuring cylinder is



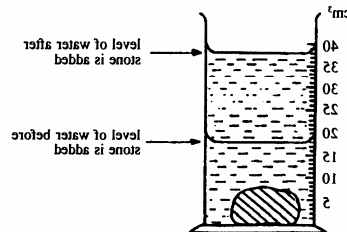
- A 35 cm³ B 36 cm³ C 37 cm³ D 38 cm³

18 The following diagram shows the level of liquid in a measuring cylinder. The volume of the liquid is



- A 24 cm³ B 28 cm³ C 29 cm³ D 32 cm³

19 The following figure shows a measuring cylinder with a stone dropped into it. What is the volume of the stone?



- A 18 cm³ B 20 cm³ C 38 cm³ D 40 cm³

- 20 B 21 B
 22 D 23 B
 24 A 25 C

1.3 (b) Density

1 An object sinks in water. It follows that the density of the object

- A is more than that of water
- B is less than that of water
- C is equal to that of water
- D is not possible to determine

2 Find the density of kerosene if 60 cm³ of kerosene weighs 48 g.

- A 1.0 g/cm³
- B 12.0 g/cm³
- C 0.9 g/cm³
- D 0.8 g/cm³

3 20 cm³ of oil weighs 18 g . Find the density of the oil.

- A 0.9 g/cm³
- B 1.1 g/cm³
- C 2.0 g/cm³
- D 6.0 g/cm³

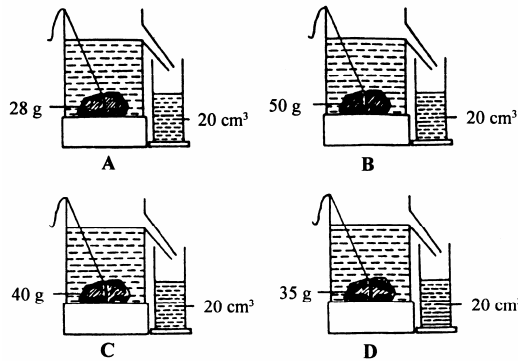
4 A piece of wood weighs 24 g and its volume is 30 cm³. Its density in g/cm³ is

- A 1.25
- B 0.8
- C 6.0
- D 54

5 A piece of metal cube weighs 450 g and its volume is 50 cm³. Find the density of the metal. (98)

- A 0.11 g/cm³
- B 9.0 g/cm³
- C 400 g/cm³
- D 500 g/cm³

6 Study the following diagrams carefully. Which object is the densest??



- 6 B
- 8 B

- 7 A
- 9 B