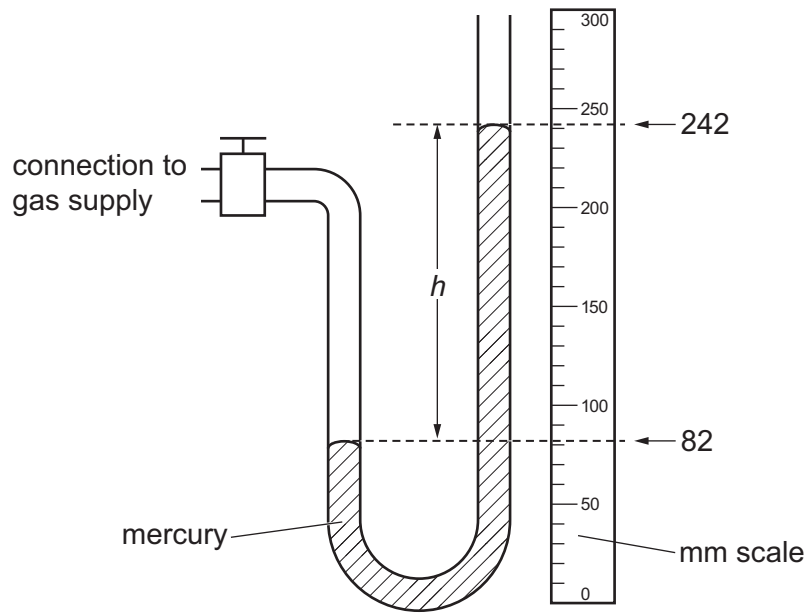**1** A device for measuring gas pressure is connected to a gas supply as shown in the diagram.

(a) Determine the difference h between the mercury levels shown in the diagram.

h = ... mm [2]

(b) The atmospheric pressure is 760 mm of mercury.

Determine the pressure of the gas supply.

pressure of gas supply = ... mm of mercury [1]

[Total: 3]

2   A student uses a digital stop-watch to measure the time for a car to travel 100 m.
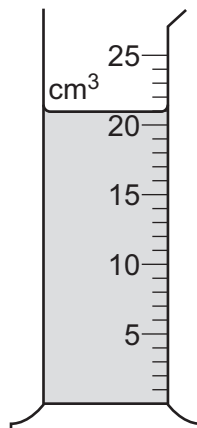
The diagram shows the time reading on the stop-watch.
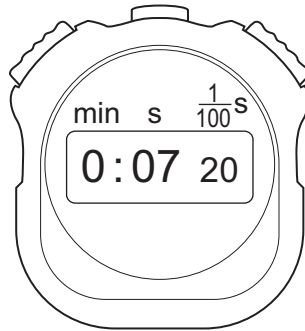
Using the information in the diagram, state the time taken to travel 100 m.

time to travel 100 m = ... s   [1]

[Total: 1]

3   The diagram shows a measuring cylinder containing some water.

(a) State the volume of the water in the measuring cylinder.

volume = ... cm^3 [1]

(b) A student adds 20 drops of water to the water that is in the measuring cylinder in the diagram. The new volume of water in the measuring cylinder is 25 cm^3.

Calculate the average volume of one drop of water.

average volume of one drop = ... cm^3 [4]

[Total: 5]

4 The diagram shows children about to run a race. They have to run 25 m, pick up a small plastic ring and run back to the base line. Each child finishes when they cross the base line holding the plastic ring.
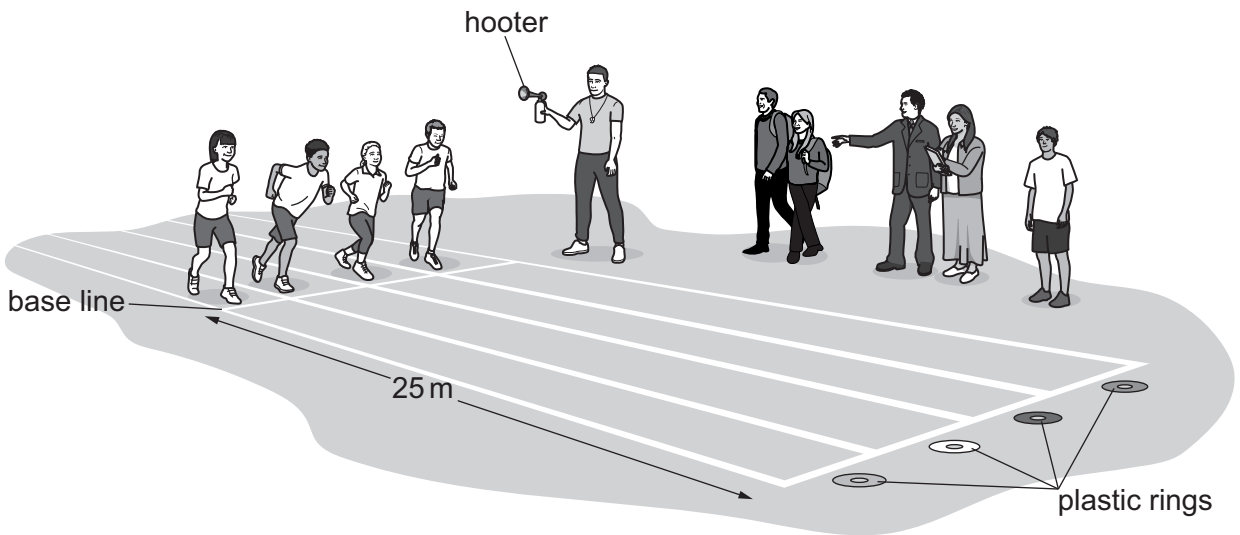
(a) Suggest what equipment the teacher uses to measure the length of 25 m.

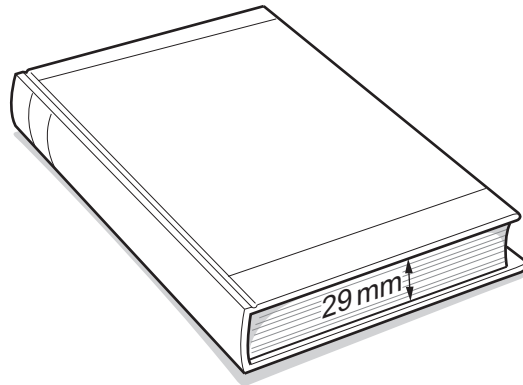.. [1]

(b) Determine the total distance for the race.

distance = ... m   [1]

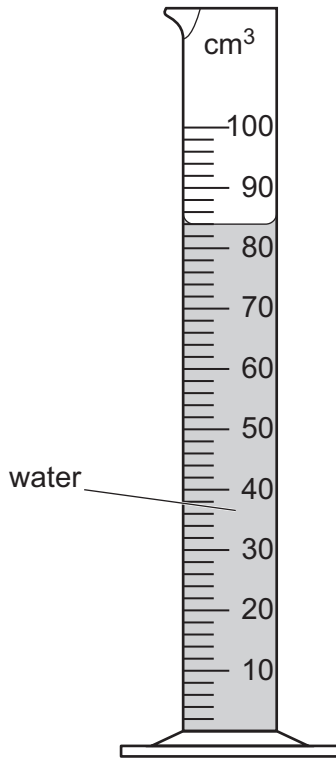[Total: 2]

5 The diagram shows a closed textbook.

There are 270 sheets of paper in the textbook. The total thickness of the sheets is 29 mm.

Calculate the average thickness of **one** sheet of paper.

average thickness of one sheet = ... mm   [3]

[Total: 3]

6 The diagram shows the volume of water collected in a measuring cylinder by a student.

Determine the volume of water in the measuring cylinder in the diagram.

volume = ... cm^3 [1]

[Total: 1]

7 The diagram shows a metal block and its dimensions
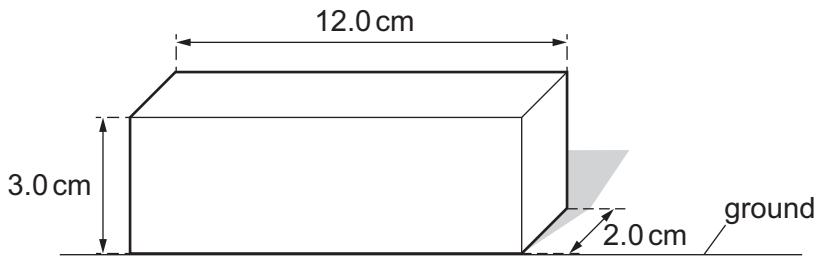
(not to scale)

Calculate the area of the metal block in contact with the ground.

area = ... cm^2 [2]

[Total: 2]

8 The diagram shows a dripping tap and a measuring cylinder. The water drops all have the same volume.
The drops fall from the tap at equal time intervals.
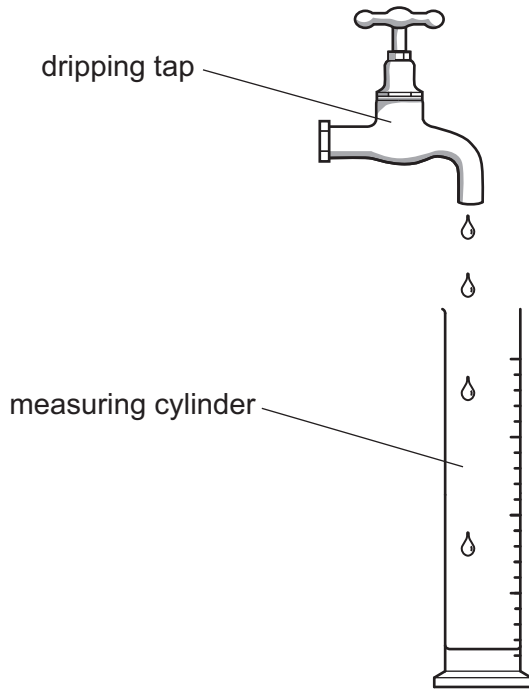
(not to scale)

The student collects 200 of the drops in a measuring cylinder. The total volume collected is $60\,\text{cm}^3$.

Calculate the average volume of **one** drop of water.

volume = ...cm^3 [3]

[Total: 3]

9 Water is dripping from a tap into a measuring cylinder.
The water drops fall from the tap at equal time intervals.

A student uses a stop-watch to measure the time taken for the tap to produce 200 drops. The diagram shows the time reading on the stop-watch.

(a) Determine the time, in seconds, for the tap to produce 200 drops.
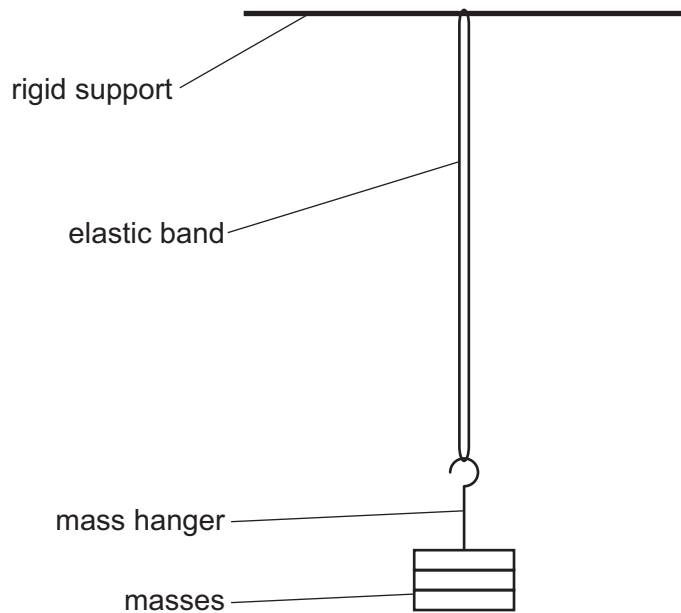
time = ...s   [2]

(b) Determine the average time interval between one drop starting to fall and the next drop starting to fall.

time interval = ...s   [2]

[Total: 4]

10 The diagram shows some masses on a mass hanger attached to an elastic band. The elastic band is stretched by the masses.

A student pulls the mass hanger down and then releases it. The mass hanger and masses oscillate up and down.

The student uses a stop-watch to time 20 oscillations. The diagram below shows the time reading on the stop-watch after the 20th oscillation.

(a) Determine the time **in seconds** for 20 oscillations from the time shown on the stop-watch.

time for 20 oscillations = ... s   [1]

(b) Calculate the time in seconds for **one** oscillation.

time for one oscillation = ... s   [2]

[Total: 3]

11 Some students collect some drops of water from a leaking tap.

The students measure the volume of the water they collect.

State the term for the equipment that is suitable for measuring the volume accurately.

.... [1]

[Total: 1]