

Mass and Weight – 2021 IGCSE 0625

1. Nov/2021/QPaper_11/No.3

The gravitational field strength on the Moon is smaller than that on the Earth.

A scientist examines a rock which has been brought back from the Moon.

He measures three quantities.

- 1 the density of the rock
- 2 the mass of the rock
- 3 the weight of the rock

Which quantities are the same size on the surface of the Earth and on the surface of the Moon?

A 1 and 2 only B 1 and 3 only C 2 and 3 only D 1, 2 and 3

2. Nov/2021/QPaper_12/No.3

Which statement about the equation shown is correct?

$$W = mg$$

A g is a force, m and W are not forces.
B m is a force, g and W are not forces.
C W is a force, g and m are not forces.
D None of g , m and W are forces.

3. Nov/2021/QPaper_13/No.3

A student uses a force meter to measure the weights and a balance to measure the masses of four different objects.

He puts his measurements in a table.

Which row is correctly recorded?

	mass	weight
A	1 kg	10 N
B	5 g	50 N
C	10 N	100 kg
D	20 kg	2 N

4. Nov/2021/QPaper_21/No.3

An object has a weight of 6.4 N on the Earth where the gravitational field strength is 10 N/kg.

Which row states the mass and the weight of the object on the Moon where the gravitational field strength is 1.6 N/kg?

	mass / kg	weight on the Moon / N
A	0.64	1.0
B	0.64	6.4
C	4.0	1.0
D	4.0	6.4

5. Nov/2021/QPaper_22/No.3

In which situation does object X have a greater mass than object Y?

- A Object X is in a larger gravitational field than object Y and both have the same weight.
- B Object X shows a greater resistance to change in motion than object Y and both experience the same resultant force.
- C Object X has a lower density than object Y and both occupy the same volume.
- D Object X moves at a greater speed than object Y and both possess the same kinetic energy.

6. Nov/2021/QPaper_23/No.3

Which statement about mass and weight is correct?

- A Mass is a property that causes change in motion.
- B Mass is caused by a gravitational field acting on a weight.
- C Weight is a property that resists change in motion.
- D Weight is caused by a gravitational field acting on a mass.

7. Nov/2021/QPaper_32/No.4

(a) A teacher wants to measure the mass of a block of metal. She also wants to measure the length, width and height of the block.

Fig. 4.1 shows the block of metal.

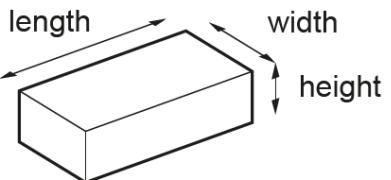


Fig. 4.1

Complete each sentence using a word from the list.

balance barometer protractor ruler voltmeter

(i) To find the mass of the metal block, the teacher uses a [1]

(ii) To measure the length, width and height of the metal block, she uses a [1]

(b) The mass of the block is 5000 g.

Calculate the weight of the block.

$$\text{weight} = \dots \text{N} \quad [3]$$



(c) Fig. 4.2 shows another block of metal on a solid surface.

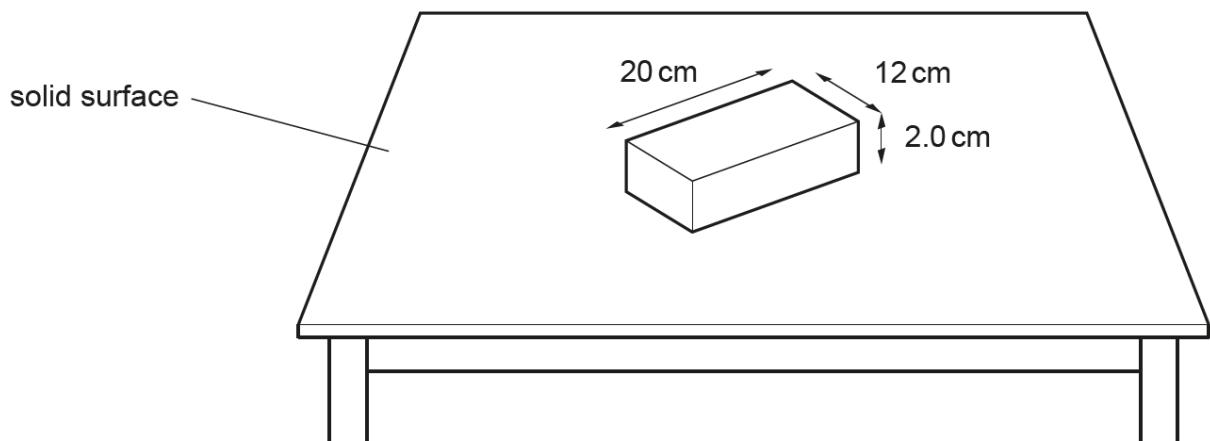


Fig. 4.2 (not to scale)

(i) Calculate the area of the block of metal in contact with the solid surface.

$$\text{area} = \dots \text{ cm}^2 \quad [1]$$

(ii) The weight of the block of metal in Fig. 4.2 is 60 N.

Calculate the pressure of the block of metal on the solid surface.



$$\text{pressure} = \dots \text{ N/cm}^2 \quad [3]$$

[Total: 9]