

1.3 Mass and Weight

Question Paper

Level	IGCSE
Subject	Physics (0625)
Exam Board	Cambridge International Examinations(CIE)
Topic	General Physics
Sub Topic	1.3 Mass and Weight
Booklet	Question Paper

Time Allowed: 20 minutes

Score: /16

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

- 1 A cup contains hot liquid.

Some of the liquid evaporates.

What happens to the mass and what happens to the weight of the liquid in the cup?

	mass	weight
A	decreases	decreases
B	decreases	stays the same
C	stays the same	decreases
D	stays the same	stays the same

- 2 A concrete post is carried up a very high mountain. At the top of the mountain, the gravitational field is slightly weaker than at the bottom.

What is the effect of this weaker field on the mass and on the weight of the post at the top of the mountain?

	mass	weight
A	is less	is less
B	is less	is unchanged
C	is unchanged	is less
D	is unchanged	is unchanged

- 3 An astronaut in an orbiting spacecraft experiences a force due to gravity. This force is less than when she is on the Earth's surface.

Compared with being on the Earth's surface, how do her mass and her weight change when she goes into orbit?

	mass in orbit	weight in orbit
A	decreases	decreases
B	decreases	unchanged
C	unchanged	decreases
D	unchanged	unchanged

- 4 A car travels 100 km. The journey takes two hours. The highest speed of the car is 80 km/h, and the lowest speed is 40 km/h.

What is the average speed for the journey?

- A** 40 km/h **B** 50 km/h **C** 60 km/h **D** 120 km/h

- 5 Weight is an example of which quantity?

- A** acceleration
B force
C mass
D pressure

- 6 The mass of an object is measured on Earth. The mass is 5.0 kg.

The object is taken to the Moon. The mass of the object is measured on the Moon.

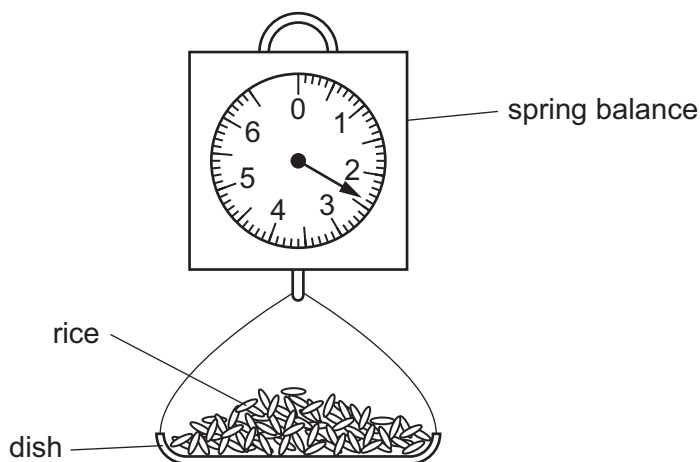
What is the mass of the object on the Moon?

- A** 0 kg
B more than 0 kg, but less than 5.0 kg
C 5.0 kg
D more than 5.0 kg

- 7 Which statement about mass or weight is correct?

- A** Mass is a force.
B Mass is measured in newtons.
C Weight is a force.
D Weight is measured in kilograms.

- 8 What is the weight of an object?
- A the force of gravity on the object
 - B the gravitational potential energy of the object
 - C the internal energy of the object
 - D the mass of the object
- 9 Which instrument is used to compare the masses of objects?
- A a balance
 - B a barometer
 - C a manometer
 - D a measuring cylinder
- 10 A customer goes to a market and buys some rice. The stallholder pours rice into a dish that hangs from a spring balance. He records the reading on the spring balance.



The customer then buys some pasta and the stallholder notices that the reading on the spring balance, with just pasta in the dish, is the same as it was with just rice in the dish.

The rice and the pasta must have the same

- A density.
- B temperature.
- C volume.
- D weight.

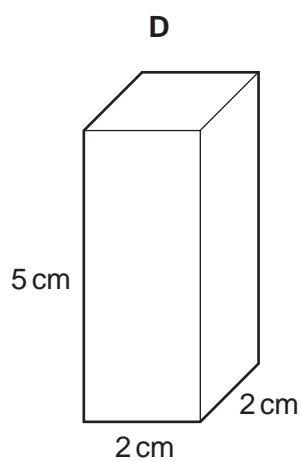
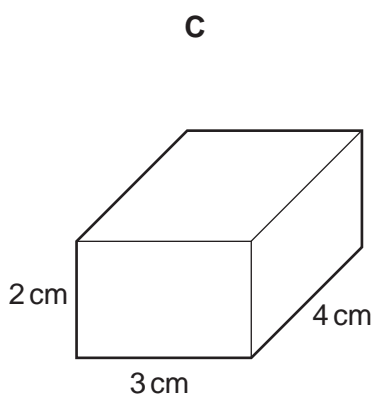
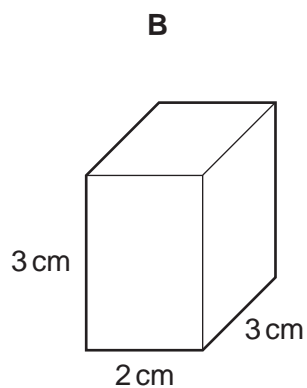
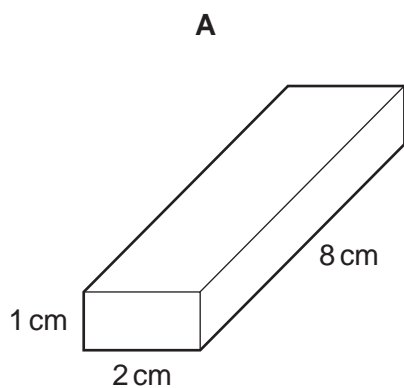
11 The mass of an astronaut is 70 kg on the Moon.

What is the mass of the astronaut on the Earth?

- A** 7 kg **B** 70 kg **C** 80 kg **D** 700 kg

12 The diagrams show four blocks with the same mass.

Which block is made from the least dense material?



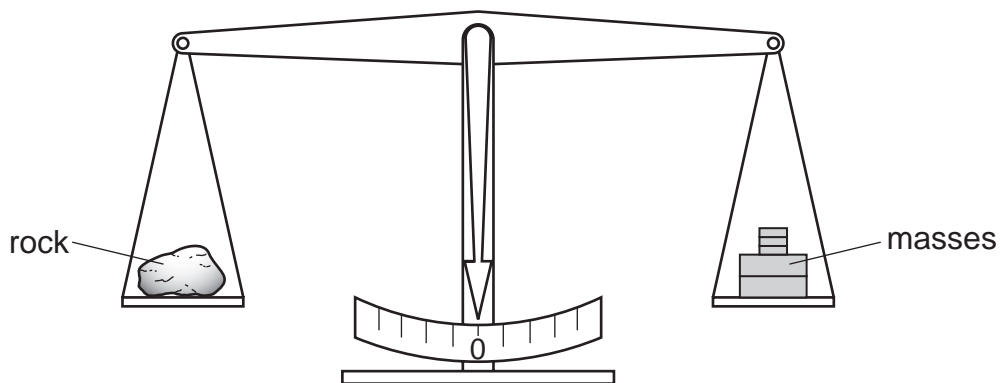
13 Which is the unit for force and which is the unit for weight?

	force	weight
A	kg	kg
B	kg	N
C	N	kg
D	N	N

14 Which quantity is measured in newtons?

- A** density
- B** energy
- C** pressure
- D** weight

15 A geologist places a small rock on the left-hand pan of a balance. The two pans are level as shown when masses with a total weight of 23 N are placed on the right-hand pan. Take the weight of 1.0 kg to be 10 N.



What is the mass of the small rock?

- A** 0.023 kg
- B** 2.3 kg
- C** 23 kg
- D** 230 kg

- 16 Which statement about mass and weight is correct?
- A** Mass and weight are both forces.
 - B** Neither mass nor weight is a force.
 - C** Only mass is a force.
 - D** Only weight is a force.