

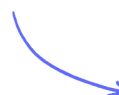
## Multiple Choice Questions

# 1.3 Mass & Weight

Mass &amp; Weight / Measuring Mass &amp; Weight

Easy (5 questions)	/5
Medium (6 questions)	/6
Hard (6 questions)	/6
<b>Total Marks</b>	<b>/17</b>

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# Easy Questions

1 Which of the quantities below is weight an example of?

- A. Field strength
- B. Acceleration
- C. Mass
- D. Force

(1 mark)

2 Which of the following statements about mass or weight is true?

- A. weight is measured in kilograms
- B.  $\text{mass} = \text{weight} \times \text{gravitational field strength}$
- C. weight is measured in Newtons
- D. mass is a force

(1 mark)

3 How is the weight of an object defined?

- A. The force of the ground pushing on an object
- B. A measure of the quantity of matter of an object at rest to the observer
- C. The mass per unit volume of an object
- D. The gravitational force acting on an object with mass

(1 mark)

4 Which row in the table gives the correct units for mass and for weight?

	Mass	Weight
<b>A</b>	kg	kg
<b>B</b>	N	kg
<b>C</b>	N	N
<b>D</b>	kg	N

(1 mark)

5 Which of the following quantities is measured in kilograms?

- A.** weight
- B.** mass
- C.** pressure
- D.** density

(1 mark)

# Medium Questions

1 Which piece of equipment is used to measure the mass of an object?

- A. A burette
- B. A balance
- C. A manometer
- D. A trundle wheel

(1 mark)

2 A baker uses a balance to weigh out some ingredients to make bread.

She weighs out some white flour, then she weighs out some wholemeal flour. She notices that the reading on the balance is the same for both types of flour.

The baker can conclude that the two flours have the same:

- A. volume
- B. density
- C. weight
- D. internal energy

(1 mark)

3 An astronaut has a mass of 80 kg on the Earth.

The gravitational field strength on the Moon is 1.6 N/kg.

What is the weight of the astronaut on the Moon?

- A. 50 kg
- B. 128 N
- C. 800 N
- D. 80 kg

(1 mark)

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(1 mark)

- 5 An astronaut travels to Mars.

Which row describes how his mass and his weight compare with their sizes on Earth?

	Mass	Weight
A	different	different
B	different	the same
C	the same	different
D	the same	the same

(1 mark)

- 6 Which row shows the mass and the weight of an object on the Earth's surface?

[gravitational field strength  $g = 10 \text{ N/kg}$ ]

	Mass / kg	Weight /N
<b>A</b>	2	0.20
<b>B</b>	2	10
<b>C</b>	5	5.0
<b>D</b>	5	50

(1 mark)

# Hard Questions

- 1 A teacher has a hot cup of tea.

Some of the liquid in the cup evaporates.

Choose the line from the table below that correctly describes what happens to the mass and the weight of the tea in the cup.

	Mass	Weight
<b>A</b>	increases	decreases
<b>B</b>	increases	increases
<b>C</b>	decreases	decreases
<b>D</b>	decreases	increases

(1 mark)

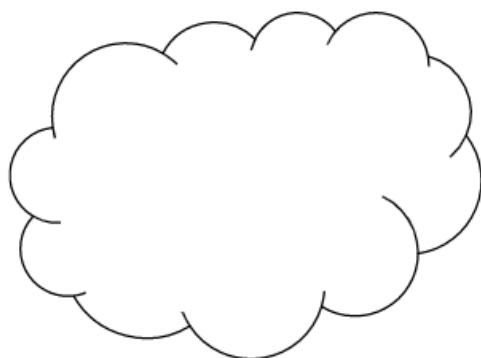
- 2 A dummy, named Starman, dressed in a white racing suit, was launched into space by Elon Musk's first Falcon Heavy rocket. Starman was sent on a journey towards Mars.

Compared with being on the Earth's surface, how do Starman's mass and weight change when he is on his journey to Mars?

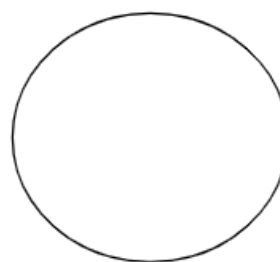
	Mass	Weight
<b>A</b>	stays the same	decreases
<b>B</b>	stays the same	stays the same
<b>C</b>	decreases	decreases
<b>D</b>	decreases	stays the same

(1 mark)

- 3 The diagram shows a ball of bread dough, before and after it has been compressed (had the air knocked out of it).



Before compression



After compression

What happens to the mass and the weight of the dough when it is compressed?



	Mass	Weight
<b>A</b>	stays the same	decreases
<b>B</b>	stays the same	stays the same
<b>C</b>	decreases	decreases
<b>D</b>	decreases	stays the same

**(1 mark)**

**4** An astronaut buys a 5.0 kg tin of Quality Street chocolates on Earth.

She takes that 5.0 kg tin of Quality Street chocolate to the Moon.

What is the mass of the tin of Quality Street chocolate on the Moon?

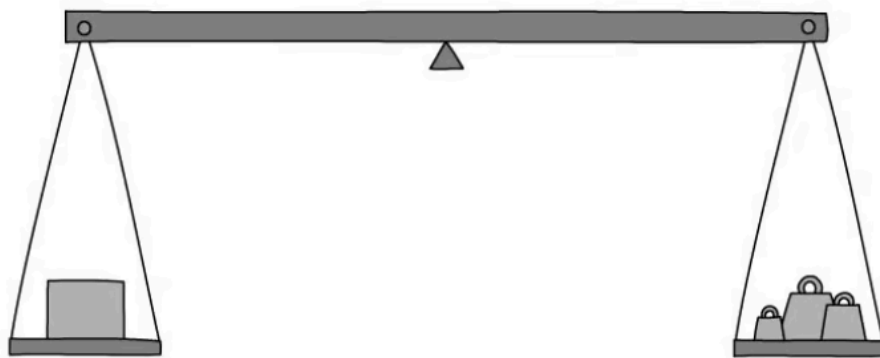
- A.** More than 5.0 kg
- B.** Less than 5.0 kg, but more than 0.0 kg
- C.** 5.0 kg
- D.** 0.0 kg

**(1 mark)**

**5** An object is put on the left hand side of the balance, shown below, in order to determine its weight.

Masses are added to the right hand side until it balances.

The table below shows the effect of various weight combinations.



Masses on the right hand side	Effect
100g, 50g, 50g, 20g, 5g, 2g	Balance tips slightly to the right
200g, 10g, 10g, 5g	Balance tips slightly to the left

Which of the masses below is most likely to be the mass of the object?

- A.** 226 g
- B.** 230 g
- C.** 220 g
- D.** 225 g

**(1 mark)**

- 6 A cheesemonger uses a newton meter to measure the weight of a block of cheese.

The cheese has a weight of 5.0 N

What is the approximate mass of the cheese?

- A. 0.05 kg
- B. 0.5 kg
- C. 5 kg
- D. 50 kg

(1 mark)