

AQA - Forces – GCSE Combined Science Physics

1. June/2021/Paper_2F/No.1

0 1

Forces are either contact forces or non-contact forces.

0 1 . 1

Which of the following is a non-contact force?

[1 mark]Tick (✓) **one** box.

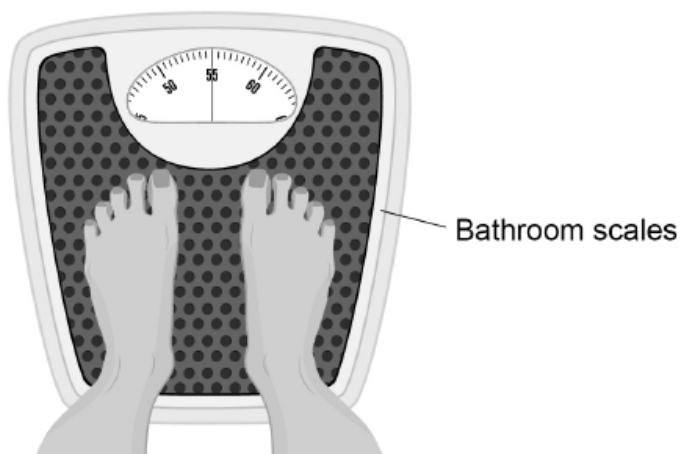
Electrostatic force

Friction force

Tension force

Figure 1 shows a person standing on some bathroom scales.

Figure 1



The person exerts a downward force on the scales and the scales exert an upward force on the person.

0 1 . 2 Which sentence about the forces is true?

[1 mark]

Tick (✓) **one** box.

The downward force is less than the upward force.

The downward force is the same size as the upward force.

The downward force is greater than the upward force.

0 1 . 3 What is the name of the upward force on the person?

[1 mark]

Tick (✓) **one** box.

Air resistance

Normal contact force

Weight

0 1 . 4 The person on the scales has a mass of 55 kg.

gravitational field strength = 9.8 N/kg

Calculate the weight of the person.

Use the equation:

$$\text{weight} = \text{mass} \times \text{gravitational field strength}$$

[2 marks]

Weight = _____ N

0 1 . 5 The gravitational field strength is **not** the same at all points on the surface of the Earth.

The gravitational field strength is **weakest** at the equator.

A person travelled from the UK to the equator.

What happened to the weight of the person?

[1 mark]

Tick (✓) **one** box.

The weight decreased.

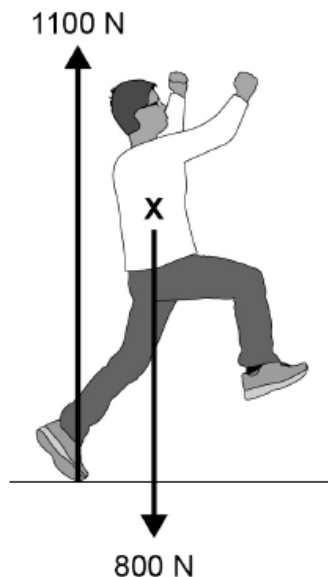
The weight remained the same.

The weight increased.

Figure 2 shows the forces acting on a person.

The person is about to jump.

Figure 2



0 1 . 6 The arrow representing the weight of the person is drawn from point **X**.

What is the name given to point **X**?

[1 mark]

Tick (✓) **one** box.

Centre of force

Centre of mass

Centre of weight

0 1 . 7 Determine the size of the resultant force on the person in **Figure 2**.

[1 mark]

Resultant force = _____ N

2. June/2021/Paper_2F/No.7(7.1_7.2)

0 7

Professional rugby players wear a tracking device that measures their velocity and acceleration.

Figure 9 shows a player wearing a tracking device.

The player is tackling another player who is running with the ball.

Figure 9



0 7 . 1

Velocity and acceleration are both vector quantities.

What is a vector quantity?

Tick (✓) **one** box.

[1 mark]

A quantity with both magnitude and direction

A quantity with direction only

A quantity with magnitude only

07.2 Which of the following is a vector quantity?

[1 mark]

Tick (✓) **one** box.

Displacement

Distance

Time

Work done

3. June/2021/Paper_2H/No.2(2.1_2.2)

0 2

Professional rugby players wear a tracking device that measures their velocity and acceleration.

Figure 2 shows a player wearing a tracking device.

The player is tackling another player who is running with the ball.

Figure 2



0 2 . 1

Velocity and acceleration are both vector quantities.

What is a vector quantity?

Tick (✓) **one** box.

[1 mark]

A quantity with both magnitude and direction

A quantity with direction only

A quantity with magnitude only

0 2 . 2 Which of the following is a vector quantity?

[1 mark]

Tick (✓) **one** box.

Displacement

Distance

Time

Work done