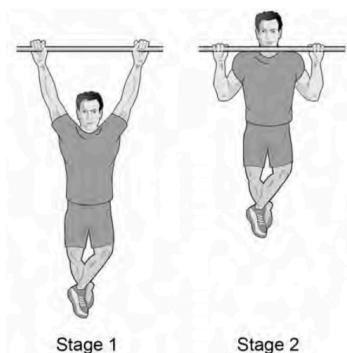


Q1. (2018)

0 3

Figure 4 shows a man doing two stages of a pull up. In both diagrams the man is stationary.

Figure 4



a)

0 3 . 1

Complete the sentence.

Choose the answer from the box.

[1 mark]

equal to	less than	more than
----------	-----------	-----------

In stage 1 the downwards force of the man on the bar is _____ the upwards force of the bar on the man.

b)

0 3 . 2

The man has a mass of 85 kg

Gravitational field strength = 9.8 N/kg

Calculate the weight of the man.

Use the equation:

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

[2 marks]

Weight = _____ N

Q2. (2019)

0 1

Magnetic force is a non-contact force.

0 1 . 1

Which **two** of these are also non-contact forces?

[2 marks]

Tick (✓) **two** boxes.

Air resistance

☐

Electrostatic

☐

Friction

☐

Gravitational

☐

Tension

☐

Q3. (2019)

0 1 . 3 When two magnets are brought close to each other they exert a force on each other.

Describe how two bar magnets can be used to demonstrate a force of attraction and a force of repulsion.

[2 marks]

Force of attraction _____

Force of repulsion _____

Q4. (2020)

0 1 **Figure 1** shows a girl bowling a ball along a ten-pin bowling lane.

Figure 1

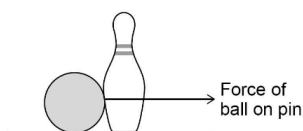


The girl is trying to knock down the ten pins at the end of the bowling lane.

As the ball travels along the lane the velocity of the ball decreases.

Figure 2 shows the ball hitting one of the pins.

Figure 2



0 1 . 4 Draw an arrow on **Figure 2** to show the force of the pin on the ball.

[2 marks]

Q5. (2020)

0 2 **Figure 3** shows a computer keyboard.

There is a spring under each key.

Figure 3

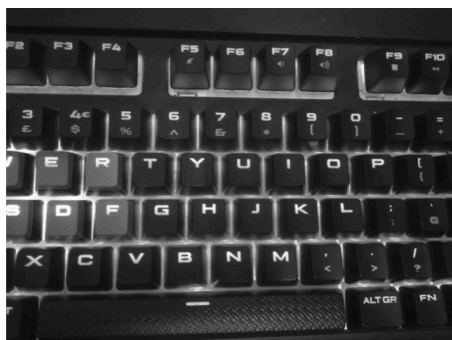
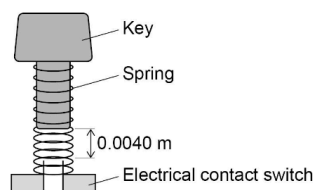


Figure 4 shows one of the keys and its spring.

Figure 4



0 2 . 5 If a key is not pressed with enough force, no signal is sent to the computer.

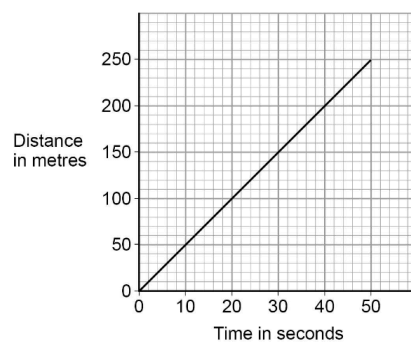
Explain why.

[2 marks]

Q6. (2020)

0 4 Figure 5 shows a distance-time graph for 50 seconds of a bicycle ride.

Figure 5



0 4 . 2 Which force acting on the moving bicycle is a non-contact force?

[1 mark]

Tick (✓) **one** box.

Air resistance

☐

Friction

☐

Gravitational force

☐

Normal contact force

☐

Q7. (2021)

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

☐

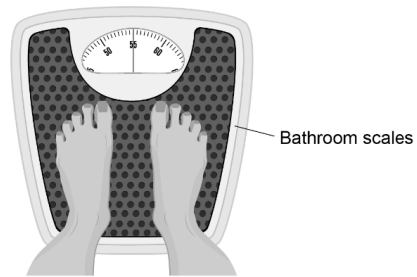
Tension force

☐

Q8. (2021)

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

[1 mark]

Tick (✓) **one** box.

Air resistance

☐

Normal contact force

☐

Weight

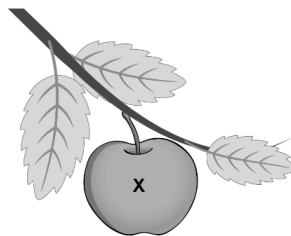
☐

Q9. (2022)

0 3 Figure 4 shows an apple hanging from a tree.

The X marks the centre of mass of the apple.

Figure 4



0 3 . 2 The apple has a mass of 0.150 kg
gravitational field strength = 9.8 N/kg

Calculate the weight of the apple.

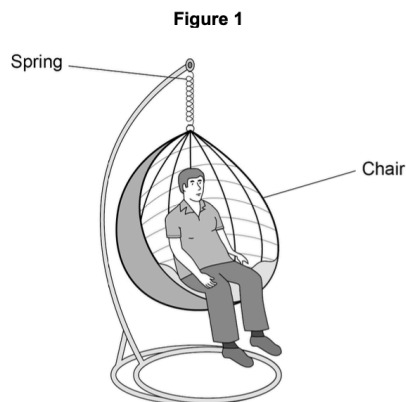
Use the equation:

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

[2 marks]

Q10. (2023)

0 1

Figure 1 shows a garden chair hanging from a spring.

The weight of the person causes the spring to extend.

0 1 . 2

Complete the sentence.

Choose the answer from the box.

[1 mark]

a gravitational

a frictional

an electrostatic

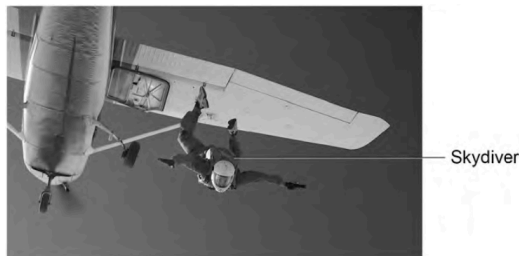
The weight of the person in **Figure 1** is _____ force.

Q11. (2024)

0 1

Figure 1 shows a skydiver jumping from an aeroplane.

The skydiver is accelerating downwards.

Figure 1

0 1 . 1

Which force causes the skydiver to accelerate?

[1 mark]

Tick (✓) **one** box.

Electromagnetic force

☐

Gravitational force

☐

Magnetic force

☐