AQA GCSE PHYSICS (HIGHER) · 8463

PHYSICS



EXAM QUESTION PACK

4.5.1.4 RESULTANT FORCES (PACK 2)

SCORE	PERCENTAGE
/19	%

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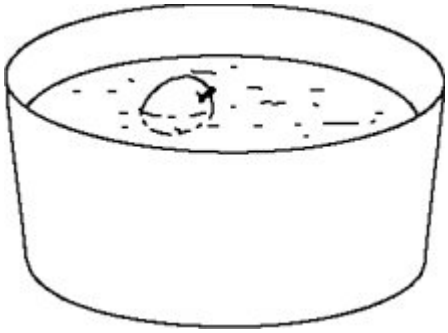
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Q1.



In a science lesson, some children float an apple on some water.

One of the children says:

“The apple is not moving. That means that there cannot be any forces acting on it.”

Do you agree?
Explain your answer as fully as you can.

_____

_____

_____

(Total 3 marks)

Q2.

Choose words from this list to complete the sentences below.

balanced	electricity	gravity
joules	magnetism	newtons

When you drop something it falls.

This is because it is pulled to the Earth by _____

We measure forces in units called _____

When a falling object reaches the ground, it stops moving.

This means that the forces acting on it are now _____

(Total 3 marks)

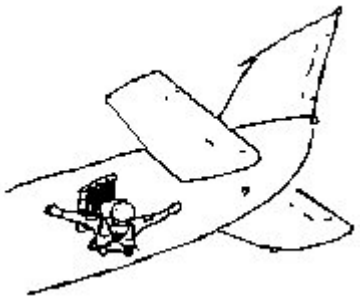
Q3.

A sky-diver steps out of an aeroplane.

After 10 seconds she is falling at a steady speed of 50m/s.

She then opens her parachute.

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After another 5 seconds she is once again falling at a steady speed.

This speed is now only 10m/s.

(a) Calculate the sky-diver's average acceleration during the time from when she opens her parachute until she reaches her slower steady speed. (Show your working.)

_____

_____

_____

(3)

(b) Explain, as fully as you can:

(i) why the sky-diver eventually reaches a steady speed (with or without her parachute).

_____

_____

_____

_____

(3)

(ii) why the sky-diver's steady speed is lower when her parachute is open.

_____

(1)

(c) The sky-diver and her equipment have a total mass of 75kg. Calculate the gravitational force acting on this mass. (Show your working.)

_____

_____

Answer _____ N

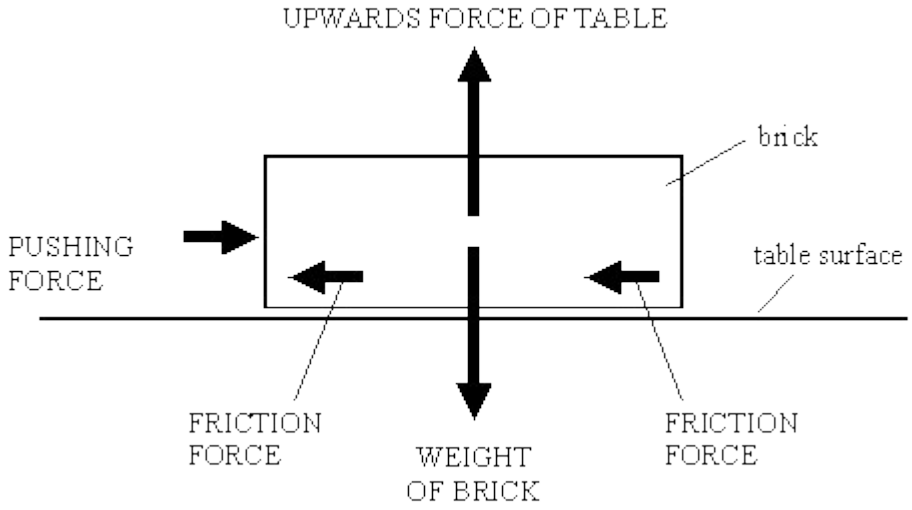
(1)

(Total 8 marks)

Q4.

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The brick shown in the diagram is being pushed but it is **not** moving.



(a) The pushing force does **not** make the brick move. Explain why.

_____

(1)

(b) The weight of the brick does **not** make it move downwards. Explain why.

_____

(1)

(c) A bigger pushing force **does** make the brick slide across the table.
Write down **one** thing that the sliding brick will do to the surface of the table.

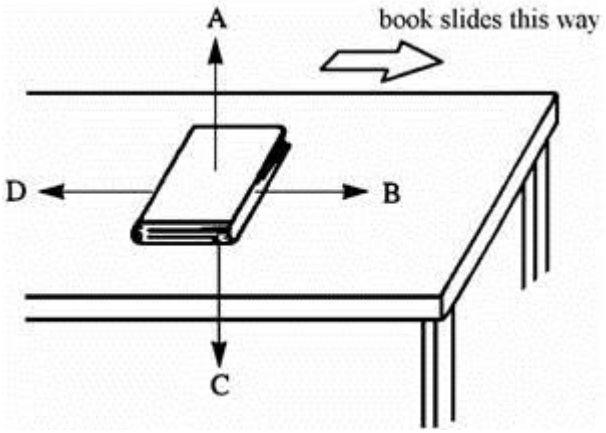
_____

(1)

(Total 3 marks)

Q5.

When you slide a book across a table, there is a force of friction between the book and the table.



(a) Which arrow shows the force of friction that acts on the book? _____

(1)

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(b) The force of friction will slow the book down.
Write down **one** other effect that the force of friction will have on the book.

_____

(1)
(Total 2 marks)

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