Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: Forces (Standard Demand Questions)

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Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Q1.

Figure 1 shows five different metal samples.

Figure 1

(a) A student placed a magnet close to each metal sample.

Describe what happened.

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_____

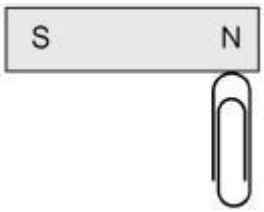
_____

_____

(2)

Figure 2 shows a paper clip being attracted to a permanent magnet.

Figure 2



(b) The paper clip in **Figure 2** is not a permanent magnet.

Explain what would happen if the paper clip was removed and brought close to the south pole of the permanent magnet.

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_____

_____

_____

(2)

(c) Write down the equation that links gravitational field strength (*g*), mass (*m*) and weight (*W*).

_____

(1)

(d) The student added more paperclips to one end of the magnet.

The maximum number of paperclips the magnet could hold was 20

Each paper clip had a mass of 1.0 g

gravitational field strength = 9.8 N/kg

Calculate the maximum force the magnet can exert.

_____

_____

_____

_____

_____

_____

Force = _____ N

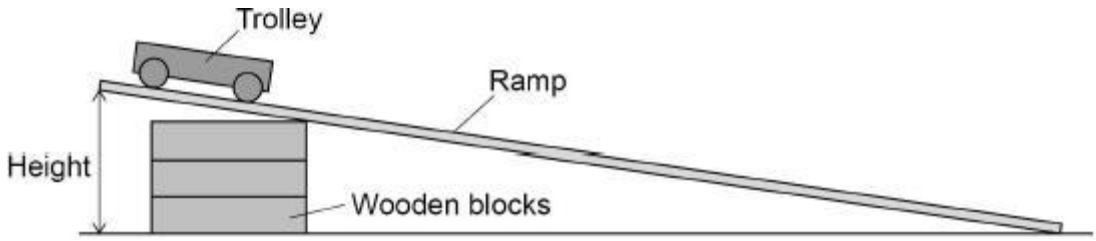
(3)

(Total 8 marks)

Q2.

A student investigated how the height of a ramp affects the acceleration of a trolley down the ramp.

The diagram below shows some of the equipment used.



(a) Plan an investigation to determine how the height of the ramp affects the acceleration of the trolley.

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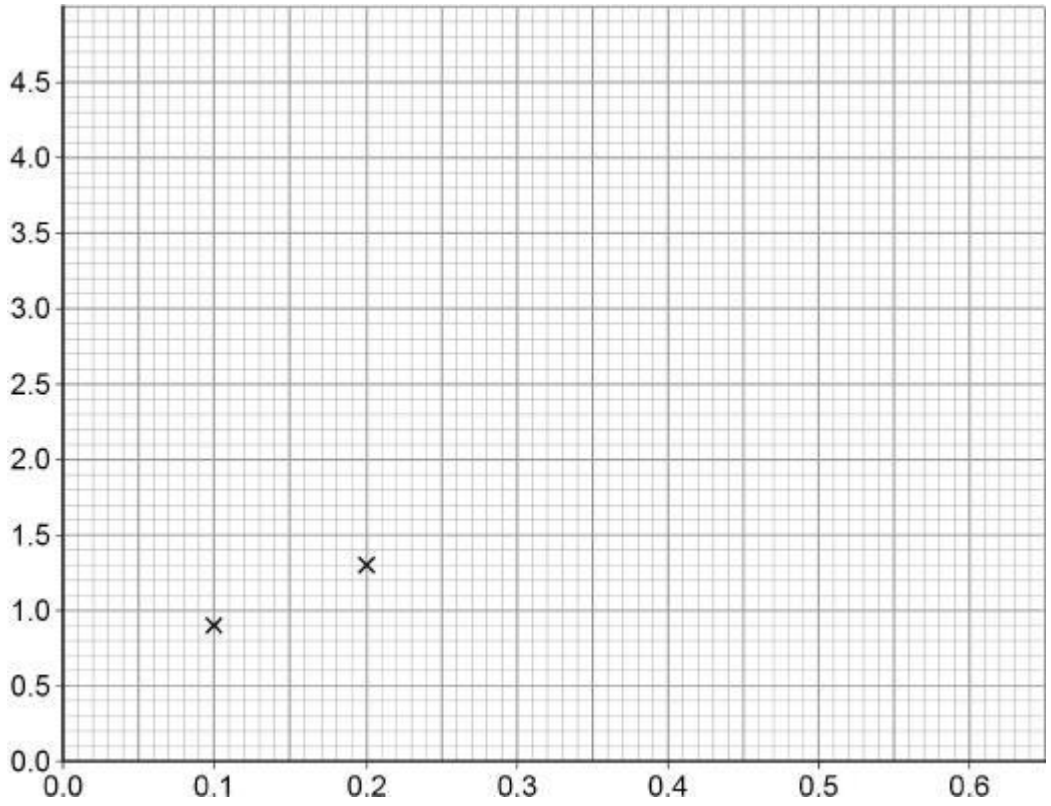
(6)

The table below shows the results.

Height of ramp in metres	0.1	0.2	0.3	0.4	0.5	0.6
Acceleration in m/s^2	0.9	1.3	2.1	3.2	3.9	4.3

The first two results have been plotted on the graph below.



(b) Complete the graph above.

You should:

- label the axes
- plot the remaining results from the table above
- draw a line of best fit.

(4)

(c) Write down the equation that links acceleration (*a*), mass (*m*) and resultant force (*F*).

_____

(1)

(d) When the resultant force on the trolley was 0.63 N the acceleration of the trolley was 2.1 m/s^2

Calculate the mass of the trolley.

_____

_____

_____

_____

_____

_____

Mass of trolley = _____ kg

(3)

(Total 14 marks)