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

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Q1.

The image below shows a lorry.



(a) The brakes of the lorry are in a poor condition.

What effect will the condition of the brakes have on thinking distance and the braking distance of the lorry?

Thinking distance _____

_____

Braking distance _____

_____

(2)

(b) Using a hand-held mobile phone while driving is illegal in the United Kingdom.

The table below shows the effect of using a mobile phone on thinking distance.

	Thinking distance
Not using a mobile phone	19 m
Using a mobile phone with hands-free kit	23 m
Using a hand-held mobile phone	27 m

Explain why driving while using a hand-held mobile phone is more dangerous than using a mobile phone with a hands-free kit.

Use data from the table above.

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_____

_____

_____

_____

_____

_____

_____

_____

(4)

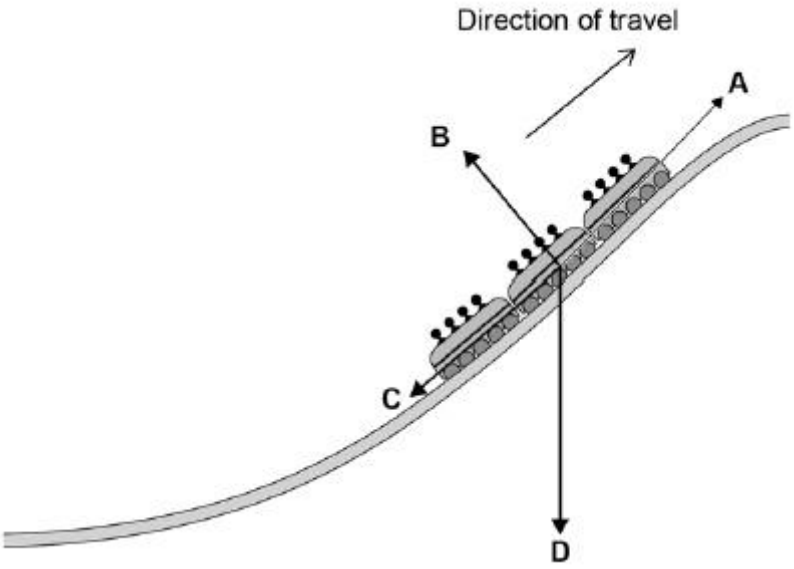
(Total 6 marks)

Q2.

Figure 1 shows a rollercoaster train as it is pulled up a slope on the track.

The arrows, **A**, **B**, **C** and **D**, represent the forces acting on the rollercoaster train.

Figure 1



(a) Give **two** ways that the force arrows show that forces are vector quantities.

1. _____

2. _____

(2)

(b) Which arrow shows the weight of the rollercoaster train?

Tick **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

(1)

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(c) Which arrow shows the normal contact force?

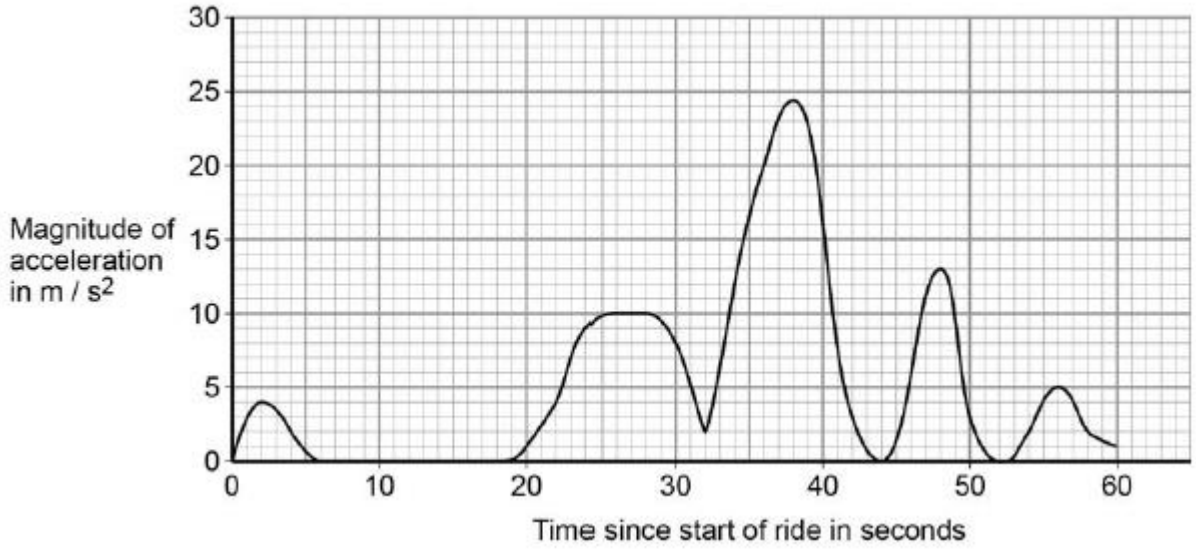
Tick **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

(1)

Figure 2 shows the magnitude of the acceleration of the rollercoaster train during the ride.

Figure 2



(d) Why has a line graph been drawn instead of a bar chart?

Tick **one** box.

Acceleration is a control variable. ☐

Both variables are continuous. ☐

Line graphs are easier to read. ☐

Time is a categoric variable. ☐

(1)

(e) What conclusion can be made from **Figure 2** about the motion of the rollercoaster train between 10 and 15 seconds?

Tick **one** box.

It is moving at a constant velocity. ☐

Its velocity is decreasing. ☐

Its velocity is increasing. ☐

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(1)

(f) What is the maximum acceleration of the rollercoaster train?

Use **Figure 2**.

Acceleration = _____ m/s^2

(1)

(g) The maximum safe acceleration for most people is 5 times the acceleration due to gravity.

Acceleration due to gravity = 9.8 m/s^2

Explain whether the acceleration of this rollercoaster train is safe for most people

_____

_____

_____

_____

_____

_____

(3)

(h) One of the passengers on the rollercoaster train has a mass of 58 kg

Calculate the maximum force experienced by the passenger during the ride.

Use the equation:

force = mass × acceleration

Give the unit.

_____

_____

_____

_____

_____

_____

Maximum force = _____ Unit _____

(3)

(Total 13 marks)

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