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

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**Name of the Student**:_____
**Max. Marks : 23 Marks** **Time : 23 Minutes**

Mark Schemes

## Q1.

(a) 7.1 (cm)

*allow 7.0 to 7.3 (cm)*

**1**

497 (m)

*allow 70 × their measurement of displacement*

**1**

(b) 0 (N)

**1**

(c) constant velocity

*allow constant speed (in a straight line)*
*do **not** accept stationary*
*allow constant acceleration if a **mathematical error** in (b) gives a non-zero value for resultant force*

**1**

(d) any **one** from:

- tension
- normal contact (force)
- upthrust

*allow lift, thrust and water resistance*
*allow normal reaction (force)*
*ignore drag*

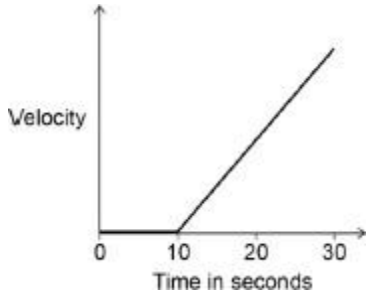
**1**

(e) horizontal line drawn to 10s along the *x*-axis

**1**

line with a positive gradient starting from 10 s

*allow an upward curving line with increasing gradient starting from 10 s*




**1**

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(f) line of best fit drawn and extrapolated to 10 km

*do **not** accept a straight line*

**1**

28 (kPa)

*allow 26 to 32 (kPa)*

*allow a value correctly extrapolated from their line*

*allow 2 marks for a correct mathematically extrapolated value*

**1**

(g) the average density of the air above the aeroplane decreases

**1**

**[10]**

## Q2.

(a) any **two** from:

- capacity of the battery

  *allow energy/charge stored in battery*

  *allow efficiency of battery*

  *ignore size of the battery*

- speed
- mass / weight
- uphill / downhill

  *allow terrain*

- stopping at traffic lights
- condition of the road

  *ignore 'the road' only*

- (air) temperature

  *ignore 'weather' only*

- (incorrect) tyre pressure
- streamlining of the car

  *allow efficiency of engine*

  *allow anything that would use charge from the battery*
  ***or***
  *anything that will reduce the energy stored*

**2**

(b) acceleration = change in velocity/time (taken)
**or**

$$a = \frac{\Delta v}{t}$$

*allow any correct rearrangement*

*allow* $a = \frac{v - u}{t}$

*do **not** accept* $a = \frac{v}{t}$

**1**

(c) $20 = \frac{28}{t}$

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1

$t = \frac{28}{20}$

1

1.4 s

1

(d) $v^2 - 0^2 = 2 \times 10 \times 605$

1

$v^2 = 12\ 100$

1

$v = 110$ (m/s)

1

(e) work done = force × distance

**or**

$W = Fs$

*allow any correct rearrangement*

1

(f) $s = 7500$ (m)

1

$W = 4000 \times 7500$

*allow correct substitution using incorrectly / not converted value of s*

1

$W = 30\ 000\ 000$ (J)

*allow correct calculation using incorrectly / not converted value of s*

1

**[13]**

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