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

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Name of the Student:_____
Max. Marks : 21 Marks **Time : 21 Minutes**

Mark Schemes

Q1.

(a) (i) 10800

allow 1 mark for correct substitution i.e. 900 × 12

2

(ii) arrow pointing towards the left

allow anywhere on the diagram or at bottom of the page

1

(b) zero

accept 0 / none / nothing

1

velocity is zero

accept speed for velocity
accept stopped / not moving
accept a calculation i.e. 900 × 0 = 0

1

[5]

Q2.

(a) (i) 4.5

*allow **1** mark for correct substitution i.e. 9 ÷ 2*

2

(ii) m/s^2

accept answer given in (a)(i) if not contradicted here

1

(iii) speed

1

(iv) straight line from the origin passing through (2s, 9m/s)

*allow **1** mark for straight line from the origin passing through to t = 2 seconds*
*allow **1** mark for an attempt to draw a straight line from the origin passing through (2,9)*
*allow **1** mark for a minimum of 3 points plotted with no line provided if joined up would give correct answer. Points must include(0,0) and (2,9)*

2

(b) (i) **B**

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*if **A** or **C** given scores **0** marks in total*

1

smallest (impact) force

1

on all/ every/ any surfaces

these marks are awarded for comparative answers

1

(ii) (conditions) can be repeated

or

difficult to measure forces with human athletes

accept answers in terms of variations in human athletes e.g.
athletes may have different weights area / size of feet may be different
difficult to measure forces athletes run at different speeds

accept any answer that states or implies that with humans the conditions needed to repeat tests may not be constant

e.g.
athletes unable to maintain constant speed during tests (or during repeat tests)

*do **not** accept the robots are more accurate*

removes human error is insufficient

fair test is insufficient

1

[10]

Q3.

(a) (i) accelerating

accept getting faster

accept speed / velocity increasing

1

(ii) acceleration increases

accept velocity / speed increases more rapidly
*do **not** accept velocity / speed increases*

1

(b) (i) acceleration = $\frac{\text{change in velocity}}{\text{time (taken)}}$

accept $a = \frac{v - u}{t}$ ***or*** $a = \frac{v_1 - v_2}{t}$

*do **not** accept velocity for change in velocity*

*do **not** accept change in speed*

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

1

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(ii) 15

*allow **1** mark for an answer of 900 **or** for correct use of 540 seconds*

2

(iii) velocity includes direction

accept velocity is a vector (quantity)
accept converse answer

1

[6]

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