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

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Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Mark Schemes

Q1.

(a) (i) 9.5

accept ±1 mm

1

10.5

1

(ii) 9.5

*ecf from **(a)(i)***

1

(iii) 190

*20 × **(a)(ii)** ecf*

1

(iv) medium

*ecf from **(a)(iii)***

1

(b) (i) any **two** from:

- position of ball before release
- same angle **or** height of runway
- same ball
- same strip of grass

2

(ii) long
or
longer than in part **(a)**
or
uneven

*do **not** allow reference to speed*

1

(c) (i) as humidity increases mean distance decreases

accept speed for distance

1

(ii) 71 × 180 = 12780
79 × 162 = 12798
87 × 147 = 12789

*all three calculations correct with a valid conclusion gains **3** marks*

or
find k from R = k / d
*all three calculations correct gains **2** marks*

or
87 / 71 × 147 = 180.1 ~ 180
87 / 79 × 147 = 161.9 ~ 162
*two calculations correct with a valid conclusion gains **2** marks*

conclusion based on calculation
*one correct calculation of k gains **1** mark*

3

(iii) only three readings **or** small range for humidity
accept not enough readings
accept data from Internet could be unreliable
ignore reference to repeats

1

(d) distance is a scalar **or** has no direction **or** has magnitude only
allow measurements from diagram of distance and displacement

1

displacement is a vector **or** has direction

1

[15]

Q2.

(a) (i) liquids are (virtually)

incompressible

1

(b) 84

*allow **1** mark for correct substitution, ie*

$$1.5 \times 10^{6} = \frac{F}{5.6 \times 10^{-5}}$$

numbers may not be written in standard form, ie

$$1\,500\,000 = F \quad \frac{F}{0.000\,056}$$

*allow **1** mark for an answer 216*

2

(c) it (the force on the slave pistons) is greater / larger
accept force (at slave piston) = 216 (N)

1

the area (touching the liquid) of the slave piston is greater than the area of the master piston
accept it has a bigger area
just quoting numbers, eg the master piston is 5×10^{-5} and the slave piston is 14.4×10^{-5} is insufficient

1

[5]