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

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Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Mark Schemes

Q1.

(a) (moving in) different / opposite directions

accept one has positive momentum the other negative momentum

accept they have different velocities

1

(b) (i) momentum before = momentum after

or

(total) momentum stays the same

accept no momentum is lost

accept no momentum is gained

1

(ii) 2.2

*allow **1** mark for calculation of teenagers' momentum as 22 (kgm/s) and*

*allow **1** mark for correct statement, eg momentum before = momentum after*

or

*allow **2** marks for a numerical expression of above, eg*

55 × 0.4 = m × 10

***or** 0 = (55 × 0.4) + (m × (-10))*

3

(c) any **two** from:

- work is done
- (against) friction

  any reference to increasing friction negates this marking point
- (transforming) (kinetic) energy into heat

2

[7]

Q2.

(a) (i) (connect) 30 (cells)

1

in series

1

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(ii) current always flows in the same direction
or
current only flows one way

1

(iii) 36 000

*allow **1** mark for correctly converting 2 hours to 7200 seconds*
*answers 10 or 600 score **1** mark*

2

coulombs / C

*do **not** accept c*

1

(b) (i) 2160

*allow **1** mark for correct substitution, ie ½ × 120 × 6^2*
*answers of 1620 or 540 score **1** mark*

2

(ii) reduce it

1

any **one** from:

- draws a larger current (from battery)
- motor draws greater power (from battery)
  accept energy per second for power
  accept more energy needed to move the bicycle
- greater resistance force (to motion) / air resistance / drag / friction
  accept less streamlined
  more mass to carry is insufficient

1

[10]

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