Practice Question Set For GCSE
**Subject : Physics**
**Paper-1 Topic: Energy (Standard Demand)**

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

Mark Schemes

## Q1.

(a) (i) 0.5 °C

**1**

(ii) data is continuous
**or**
both variables are continuous
**or**
independent variable is continuous
**or**
time is continuous

*accept results / measurements for data*
*accept data is not categoric*
*one variable is continuous is insufficient*
*air temperature is continuous is insufficient*

**1**

(b) (i) 20.5 (°C)

**1**

(ii) 60 (minutes)

*accept 1 hour*

**1**

(c) (i) so a comparison can be made
**or**
outside temperature is a control variable

*accept:*
*(outside) temperature would affect energy required (to maintain temperature of the house)*
***or***
*(outside) temperature would affect internal temperature (of the house)*
***or***
*heat loss will be faster on a cold day*
*outside temperature will affect the results is insufficient*
*fair test is insufficient*

**1**

(ii) the cost is equal to the number of kWh × the cost per kWh

*accept (heating) bill depends on (number of) kWh used*
*accept energy for kWh*

**1**

calculation 0.8 / 8.0 = 0.1 or 10%

*allow 7.2 / 8.0 = 0.9 or 90%*

1

(iii) heating is on for more / less time (than anticipated)

1

because some days it is cooler / warmer (than anticipated)

*accept other sensible suggestions*

*an answer giving two sensible situations gains **2** marks*
*possible examples:*

- *some houses have different amounts of insulation*
- *there are different styles of house*

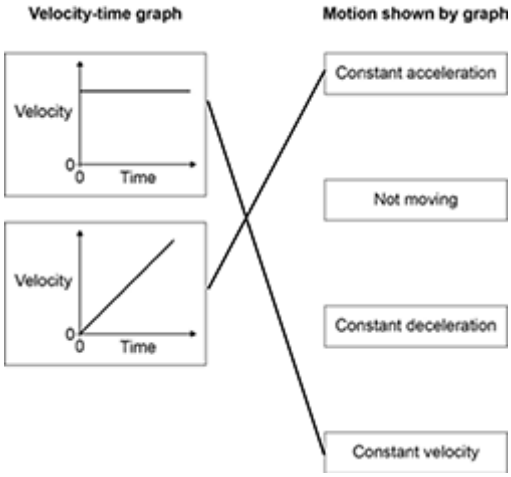
*temperature (inside / outside) is always changing is insufficient*

1

**[9]**

## Q2.

(a)




*if more than one line is drawn from a graph then all those lines are wrong allow **1** mark for 1 correct line*

2

(b) speed

1

(c) (i) 2.25

*allow **1** mark for correct substitution i.e.*

$a = \frac{9 - 0}{4}$ or $a = \frac{9}{4}$

*provided no subsequent step*

2

(ii) the air resistance increases

1

(d) 2000 J

1

mass is half
**or**
kinetic energy depends on mass

*do **not** accept weight for mass*

1

**[8]**