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

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

Mark Schemes

Q1.

(a) water boils at the same temperature each time

1

control starting temp by allowing enough time for water and kettle to reach room temperature

1

(b) uncertainty = (302 – 298) / 2

1

uncertainty = ± 2 (s)

ignore missing ±

1

(c) (Energy transferred = Power × time)

E = 2.20 × 300

1

E = 660 (kJ)

1

*allow 660 (kJ) without working shown for **2** marks*

*allow answer calculated using incorrect value for t (298 or 302) for **1** mark*

(d) (mass × change in temperature) / mass

*allow **1** mark for any correct pair of values from the table*

1

eg 20 / 0.25

80 (°C)

1

*allow 80 (°C) without working shown for **2** marks*

(e) four points plotted correctly

*allow **1** mark for three correctly plotted points*

2

ecf their 5.3

allow ± 1mm

accurate line drawn

line should be straight and drawn with a ruler

1

line must not go through the origin

(f) values read correctly from graph

1

correct conversion into J

1

correct use of $\Delta y / \Delta x$

1

value in range 4200 – 4800

1

*allow value in range 4200 – 4800 without working shown for **4** marks*

(g) some of the energy supplied does not raise the temperature of the water

some of the energy is wasted is insufficient

1

(h) (the power of the kettle may not be 2.2kW)

(by measuring the power) the student can accurately calculate the amount of energy supplied to each mass of water

1

[17]