

Name of the Student: _____

Max. Marks : 22 Marks

Time : 22 Minutes

Mark Schemes

Q1.

(a) (i) 2(.0)

accept 2000 W or 2000 watt(s)
accept answer given in table
*do **not** accept 2000*

1

(ii) 4.5

*allow **1** mark for correct substitution*
ie 1.5×3
*allow **1** mark for the answers 1.5 or 6(.0)*

2

(iii) 54

or

their (a)(ii) $\times 12$ correctly calculated

*allow **1** mark for correct substitution*
ie 4.5×12

or

their (a)(ii) $\times 12$

*allow **1** mark if correct answer is given in pounds eg £54*

2

(b) (i) 6 pm

1

temperature starts to rise faster

only scores if 6 pm given

or

graph (line) is steeper / steepest

it refers to graph gradient or temperature
accept answers in terms of relative temperature rise
eg 5 to 6 pm 2 °C rise, 6 to 7 pm 6 °C rise
accept temperature rises sharply / rapidly / quickly
*do **not** accept temperature starts to rise*

1

(ii) middle box ticked

1

[8]

Q2.

- (a) (i) walls
accept sides (of house)
1
- (ii) fit double glazing
or
close / fit curtains / fit shutters
accept close windows
accept keep house at a lower temperature
accept fit (foam) draft excluders around the windows / in the jams
accept put plastic (film) across the windows
*do **not** accept fit thicker glass*
1
- (b) (i) cavity (wall insulation)
accept the middle one
1
- (ii) fit hot water jacket **and** draught-proofing
both required
1
- (together) saves most money
only scores if first mark scores
accept saves more than fitting (energy efficient) light bulbs
accept saves £40
accept gives the shortest payback time
an answer fit energy efficient light bulbs (on its own) gains 1 mark only
1

[5]

Q3.

- (a) (i) 7pm
accept 19.00 / 1900
1
- (ii) 8pm
accept 20.00 / 2000
1
- temperature drops more slowly
accept heat for temperature accept line is less steep
1
- (b) insulator
1
- conduction *
1
- convection *
** answers can be either way around*
1
- (c) (i) 4 (years)

1

(ii) it is the cheapest / cheaper / cheap

*do **not** accept answers in terms of heat rising or DIY*

1

has the shortest / shorter payback time

*do **not** accept short payback time*

1

[9]