

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

Name of the Student: _____

Max. Marks : 24 Marks

Time : 24 Minutes

Mark Schemes

Q1.

(a) kinetic

answers must be in this order

1

chemical

1

(b) gravitational potential energy increases

1

(c) $E_p = 50 \times 9.8 \times 3.0$

1

$E_p = 1470 \text{ (J)}$

allow 1500 (J)

1

(d) speed = $\sqrt{2 \times \frac{1600}{50}}$

1

speed = 8

allow 8.0

1

m/s

1

(e) energy has been transferred from the athlete to the air

1

(f) the rate at which the athlete transfers energy

1

(g) more than

answers must be in this order

1

less than

1

[12]

Q2.

- (a) 300 (W/m²) 1
- (b) (cities closer to the equator) receive a greater solar intensity
allow (cities closer to the equator) receive more radiation/energy
ignore they get more sunshine
ignore they are hotter 1
- (c) carbon dioxide 1
- (d) 0.61 × 1100 1
- 671 (W)
allow 670 (W) 1
- (e) larger heating panels have a greater input power
allow larger heating panels have a greater input energy (per second) 1
- (f) the energy required to increase the temperature of 1kg of water by 1 °C 1
- (g) 8 400 000 = 80 × 4200 × Δθ 1
- $$\Delta\theta = \frac{8400000}{80 \times 4200}$$
 1
- Δθ = 25 (°C) 1
- (h) thermal insulation decreases the rate of energy transfer 1
- (i) B 1

[12]