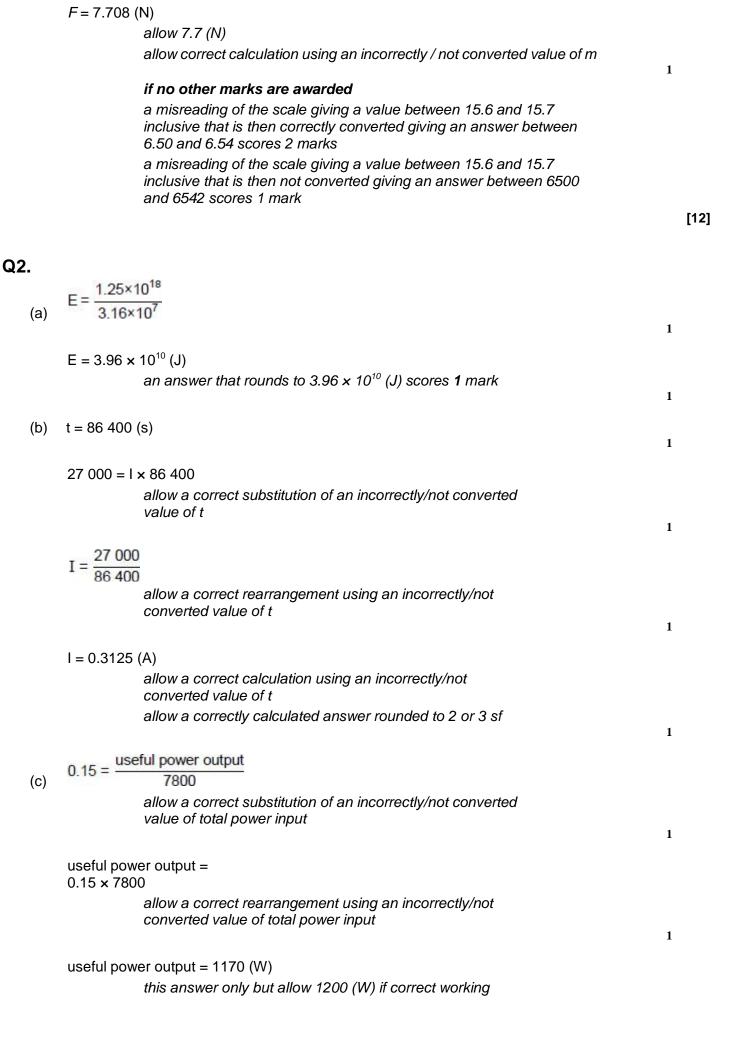
Practice Question Set For GCSE

Subject: Physics

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Paper-1 Topic: GCSE Triple Science_ENERGY (High Demand Questions)

Name of the Student:		Time : 23 Minutes
01		
Q1.		
(a)	there is a resultant force acting	
	allow weight/gravity is greater than air resistance	
	allow (initially) weight/gravity is the only force acting	1
		1
(b)	as the velocity of the hailstone increases air resistance increases	
	allow speed for velocity	
		1
	until air resistance becomes equal to the weight of the hailstone	
		1
	so the <u>resultant force</u> is (equal to) zero	
	.o (0 quanto) = 0.0	1
(c)	as mass increases the weight of a hailstone increases	
(c)	as mass increases the weight of a nalistone increases	1
<i>(</i> 1)		
(d)	kinetic energy depends on both mass and velocity	
	allow $E_k = \frac{1}{2} mv^2$	1
		•
	as mass increases so does terminal / maximum velocity	
	a statement is required	1
		1
	kinetic energy \propto m and kinetic energy \propto v^2 so as mass doubles kinetic	
	energy more than doubles	
	this mark can be scored by relevant calculations	1
		1
(e)	1 N m	
		1
(f)	mass = 0.0185 (kg)	
	allow 0.018 to 0.019 inclusive	
		1
	_ 0.0185 × 25	
	$F = \frac{0.0163 \times 20}{0.060}$	
		o of
	allow a correct substitution using an incorrectly / not converted value m	J UI
	***	1



(d) a really large area of land would need to be covered with solar cells

1

due to the low useful power output of the solar cells

allow due to the low efficiency of the solar cells

or

number of hours of daylight is too low (in UK)

or

low solar intensity (in UK)

or

solar radiation (in UK) is too low

Of

material for construction of solar cells and/or lithium batteries is in limited supply

[11]

1