Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 2_Motion and Forces

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Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Mark Schemes

Q1.

Question number	Answer	Additional guidance	Mark
	rearrangement (1) $m = \frac{f}{a}$ substitution and conversion (1) $m = \frac{1870}{1.83}$ answer and rounding to 3 s.f. (1) 1020 (kg)	maximum 2 marks if kN not converted to N award full marks for correct numerical answer without working	(3)

Q2.

Question number	Answer	Additional guidance	Mark
	rearrangement of $\frac{(v-u)}{t} = a$ (1) $v = u + at$ substitution (1) $v = 0 + 1.83 \times 16$ answer (1) 29.3 (m/s)	award full marks for correct numerical answer without working	(3)

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Q3.

Question number	Answer	Additional guidance	Mark
(i)	substitution (1) (t =) $\frac{10 - 6.2}{2.5}$ evaluation (1) (t =) 1.5 (s)	 $\frac{3.8}{2.5}$ allow $\frac{6.2 - 10}{2.5}$ or $\frac{-3.8}{2.5}$ 1.52 (s) allow –1.5(2) (s) award full marks for correct answer without working	**2** **AO2.1**

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Question number	Answer	Additional guidance	Mark
(ii)	substitution OR rearrangement (1) $(-)10^2 = 2 \times (-)\ 4.4 \times x$ evaluation (1) (x =) 11 (m)	 $(x) = \frac{v^2 - u^2}{2 \times a}$ $(x=)\ \frac{(-)10^2}{2 \times (-)\ 4.4}$ allow values that round to 11 (m) e.g. 11.36 (m) ignore negative sign in answer line	**2** **AO2.1**
		accept 1.1(36) for one mark award full marks for correct answer without working	

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Q4.

Question number	Answer	Additional guidance	Mark
	substitution (1) $(v^2 - 0 =) 2 \times 10 \times 1.5$ evaluation (1) 5.5(m/s)	 accept numbers that round to 5.5 e.g. 5.477 30(m/s) gains 1 mark for correct substitution but no square root taken award full marks for correct answer without working.	**(2)** **AO2**

Q5.

Question number	Answer	Additional guidance	Mark
(i)	substitution Time = 37/ 25 (1) Evaluation (1) = 1.5 (s)	 Allow 1.48 (s) full marks will be awarded for correct numerical answer without working	**(2)**

Question number	Answer	Additional guidance	Mark
(ii)	substitution K.E. = $0.5 \times 1300 \times 20^2$ (1) evaluation (1) = 260,000 J	 260 kJ full marks will be awarded for correct numerical answer without working	**(2)**

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Q6.

Question number	Answer	Mark
(i)	A	(1)

Question number	Answer	Additional guidance	Mark
(ii)	Obtain readings from graph (1) Substitution (1) $\frac{16}{2.0}$ Answer (1) 8.0 (m/s^2)	award full marks for correct numerical answer without working	(3)

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