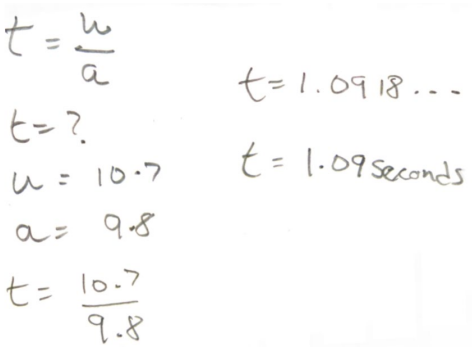
Marking instructions for each question

Question			Expected response	Max mark	Additional guidance
1.	(a)	(i)	$(v_h = 16 \cdot 0 \cos 42 \cdot 0)$ $v_h = 11 \cdot 9$ m s^{-1}	**1**	Accept:12, 11·89, 11·890
		(ii)	$(v_v = 16 \cdot 0 \sin 42 \cdot 0)$ $v_v = 10 \cdot 7$ m s^{-1}	**1**	Accept: 11, 10·71, 10·706
	(b)		$v = u + at$ **(1)** $0 = 10 \cdot 7 + (-9 \cdot 8)t$ **(1)** $t = 1 \cdot 1$ s **(1)**	**3**	Or consistent with (a)(ii) u and a must have opposite signs Accept: 1, 1·09, 1·092 For alternative methods: 1 mark for **all** relationships 1 mark for **all** substitutions 1 mark for final answer
	(c)		$s = vt$ **(1)** $s = 11 \cdot 9 \times (1 \cdot 1 + 1 \cdot 40)$ **(1)** $s = 29 \cdot 8$ m **(1)**	**3**	Or consistent with (a)(i) and (b) Accept: 29·75, 29·750 Also accept 30
	(d)		Greater **(1)** The skier has a greater speed/ velocity as they land. **(1)**	**2**	 Potential energy at take-off is transferred/converted to kinetic energy.

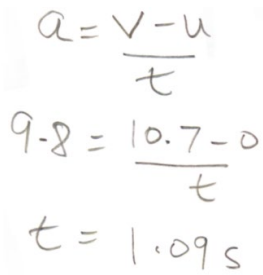
Q1(b) **Maximum mark: 3**

Response A

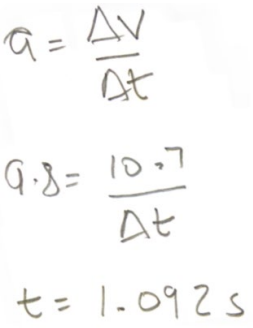
Marks



Response B

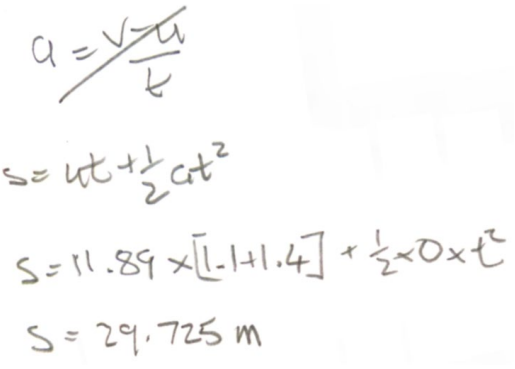


Response C

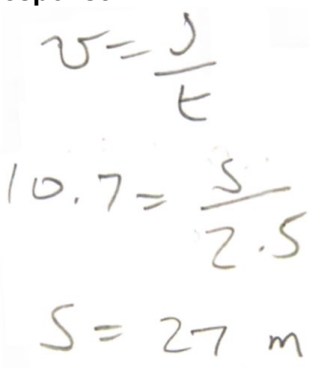


Q1(c) **Maximum mark: 3**

Response A **Marks**

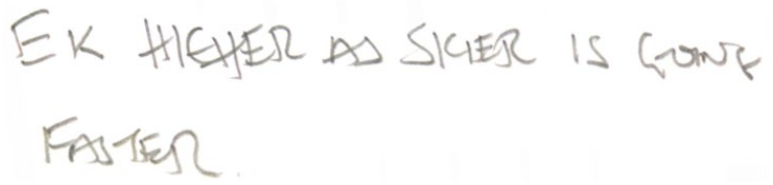


Response B

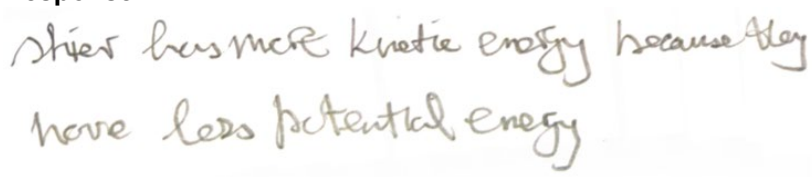


Q1(d) **Maximum Mark: 2**

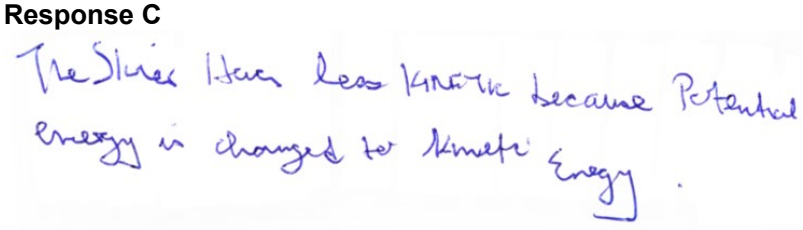
Response A **Marks**



Response B



Response C



Question	Candidate response	Max mark	Mark awarded	Commentary
1(b)	A	3	0	The candidate has not selected an appropriate relationship. Following the statement of an inappropriate relationship, a correct relationship cannot be implied by 'correct' substitution of values.
	B	3	1	The candidate has selected an appropriate relationship but has not correctly substituted values (v = 0, u = -10.7).
	C	3	3	The candidate has selected an appropriate relationship, correctly substituted values (consistent sign convention), and calculated an acceptable final answer.
1 (c)	A	3	3	The candidate has selected an appropriate relationship, substituted values consistent with their final answer for 1(a)(i), and given an acceptable final answer.
	B	3	1	The candidate has selected an appropriate relationship but has not correctly substituted values (10.7 rather than 11.9).
1(d)	A	2	2	The candidate has made an acceptable statement ('higher' is an acceptable alternative to 'greater') and has given an acceptable justification ('going faster' is an acceptable alternative to 'has a greater speed').
	B	2	1	The candidate has made an acceptable statement, but their justification is incomplete, lacking an indication of potential energy being converted to kinetic energy.
	C	2	0	The candidate has made an incorrect statement. Following an incorrect statement, no marks are awarded for a 'correct' justification.