Question number	Answer	Notes	Marks
8 (a) (i)	(unbalanced) force = mass × acceleration;	allow rearrangements and standard symbols e.g. F = m × a	1
(ii)	substitution OR rearrangement; evaluation; e.g. 49 = 45 × a OR a = F / m (a =) 1.1 (m/s^2)	 allow 1.088... (m/s^2) reject 1.08 (m/s^2)	2
(iii)	any suitable suggestion; e.g. friction between snow / ground and sledge ground is not level towing rope / direction at an angle to the ground / direction of movement	 allow air resistance, drag	1
(b) (i)	acceleration = <u>change</u> in velocity ÷ time (taken);	allow rearrangements and standard symbols e.g. a = Δv ÷ t a = v-u ÷ t	1
(ii)	substitution AND rearrangement; evaluation to at least 2s.f.; e.g. v = 1.3 × 2.4 (+ 0) (v =) 3.1 (m/s)	v = a × t allow 3.12 (m/s)	2
(c) (i)	<u>area</u> under the line / graph;		1
(ii)	any three from: MP1. (constant) acceleration between 0 and A; MP2. constant velocity between A and B; MP3. constant deceleration / negative acceleration between B and C; MP4. deceleration is less than acceleration;	 allow no acceleration	3

Total for question 8 = 11 marks