

Question number	Answer	Notes	Marks
9 (a)	use of $v^2 = u^2 + 2as$ ;  substitution; rearrangement; evaluation;  e.g.  $v^2 = u^2 + 2as$ $v^2 = (0) + 2 \times 10 \times 2.2$ $v = \sqrt{44}$ $(v =) 6.6 \text{ (m/s)}$	seen anywhere in working allow use of $g=9.8, 9.81$  allow alternative method using $mgh = \frac{1}{2}mv^2$ final answer of 44 (m/s) is 2 marks only  allow 6.63...(m/s), 6.56...(m/s) 6.5 scores 3 marks only	4
(b) (i)	vertical arrow drawn upwards;	ignore labels reject if more than one arrow drawn unless resultant force is clearly labelled	1
(ii)	substitution into $F = ma$ ; rearrangement; evaluation;  e.g. $18000 = 4100 \times a$ $a = 18000 / 4100$ $(a =) 4.4 \text{ (m/s}^2\text{)}$	-1 for POT error  allow 4.39...(m/s <sup>2</sup> )	3

Total for Question 9 = 8 marks