Question number			Answer	Accept	Reject	Marks
8	(a)		Area under the graph (from 0 s to 3 s) ;	6 x 3 or 18 (m); area shaded on graph		1
	(b)	(i)	Momentum = mass x velocity;	$p = m \times v$; accept rearrangements		1
		(ii)	Substitution in correct equation; Calculation; e.g. 6.4 x 6 = 38.4 kg m/s ;	 Ns;		3

Question number			Answer	Accept	Reject	Marks
8	(c)	(i)	4.8 (m/s) ;			1
		(ii)	Idea that momentum is conserved; Substitution; Calculation; e.g. $p_1 = p_2$ / $m_1 \times v_1 = (m_1 + m_2) \times v_2$ $6.4 \times 6 = (6.4 + m_2) \times 4.8$ $m_2 = (38.4 \div 4.8) - 6.4 = 8 - 6.4$ $= 1.6$ (kg)	Allow e.c.f. from incorrect momentum calculation in (b)(ii) and /or incorrect velocity reading e.g.: Idea of conservation of momentum; $m_2 = [(b)(ii) \div (c)(i)] - 6.4$; correct evaluation of this; e.g. 5 m/s → 1.28 kg Allow for one mark - A calculation that only leads to total mass e.g. = 8 kg;		3
					Total	**9**