Question			Answer	Marks	AO	Guidance
12			For AB, Newton's second law $8 = 5a$			
			acceleration is 1.6 ms^{-2}	**B1**	**3.1b**	Uses Newton's second law to calculate acceleration
			for AB $u = 0,\ a = 1.6,\ t = 3$			
			$s = \frac{1}{2}at^2 = \frac{1}{2} \times 1.6 \times 3^2 = 7.2$ m	**M1**	**1.1a**	Uses *suvat* equation(s) and their a leading to a value for s
			velocity at B $v = at = 1.6 \times 3 = 4.8$ ms^{-1}	**M1**	**3.1b**	Uses *suvat* equation(s) and their a leading to a value for velocity at B
			for BC Newton's second law $8 - 28 = 5a$	**M1**	**3.1b**	Uses Newton's second law to calculate acceleration. Condone missing 8N force. Allow sign errors.
			acceleration is -4 ms^{-2}	**A1**	**1.1b**	soi
			for BC $u = 4.8,\ v = 0,\ a = -4$			
			$0^2 = 4.8^2 - 2 \times 4s$	**M1**	**1.1a**	Uses *suvat* equation(s) and their a leading to a value for s.
			$s = 2.88$ m	**A1**	**1.1b**	FT their negative a and their positive velocity at B
			distance AC is $7.2 + 2.88 = 10.08$ m	**A1**	**1.1b**	Allow 10 m
				[8]		