Que	stion	Scheme	Marks	AOs	
4(a)		Equation of motion for the car	M1	3.3	
		7400 - 2R - 2400 = 1200a	A1	1.1b	
		Equation of motion for the trailer	M1	3.4	
		2400 - R = 400a	A1	1.1b	
		<i>a</i> = 0.5	A1	1.1b	
			(5)		
		N.B. Either equation could be replaced by: Equation of motion for the whole system $7400-\ 3R = 1600a$			
4(b)		The value of a_1 would be less than the value of a . Allow ' a_1 would be slower than a' , N.B. Allow 'it would be less than a'	B1	3.5a	
			(1)		
4(c)		The resistance won't be constant or just 'it won't be constant.' Allow the negative also: The resistance is constant or just 'it is constant' B0 for 'it doesn't take account of air resistance'	B1	3.5b	
			(1)		
I			(7	marks)	
Notes:					
4a		N.B. When entering marks on ePEN for the two equations of motion, enter them in the order in which they appear on the script. For any equation of motion, use the mass in the 'ma' term to determine to which part of the system it relates.			
	M1	Correct no.of terms and condone sign errors, with the driving force as 7400 (when appropriate) and the tension as 2400.			
	A1	Correct equation			
	M1	Correct no.of terms and condone sign errors, with the driving force as 7400 (when appropriate) and the tension as 2400.			
	A1	Correct equation			
	A1	сао			
4b	B1	сао			
4c	B1	B0 if any incorrect extras are given or for an incorrect statement			