Question Number	Scheme	Marks	
7(a)	$2560 \times 0.4 = 2100 - 640 - R$	M1A1	
	$R = 436$ ✱ GIVEN ANSWER	A1 ✱	(3)
(b)	Truck: $1600 \times 0.4 = 2100 - 640 - T$ **OR** car: $960 \times 0.4 = T - 436$	M1A1	
	$T = 820\,\text{N}$	A1	(3)
(c)	$2560a' = 2100 - 640 - 436 + 1600g \sin \alpha + 960g \sin \alpha$ (omission of g is one error)	M1A1A1	
	$a' = 1.05$ or $1.1\ \text{m s}^{-2}$	A1	(4)
			[10]
	Notes for qu 7		
	Use the *mass* which is being used, in *F=ma*, to decide which part of the system an equation applies to.		
7a	M1 for an equation of motion, dim correct with correct no.of terms, condone sign errors, *in R only*		
	First A1 for a correct equation		
	Second A1 for $R = 436$ GIVEN ANSWER **N.B**. They may do (b) first, using the Truck equation to find $T = 820$, and then use Car equation here to show that $R = 436$		
7b	M1 for an equation of motion, dim correct with correct no.of terms, condone sign errors, for either truck or car, in *T* only. (Equation could appear in (a) but must be being used in (b))		
	First A1 for a correct equation		
	Second A1 for $T = 820$ (N)		
7c	M1 for an equation of motion *in a' only*, dim correct with correct no.of terms, condone sign errors and missing g's,		
	First and second A1 for a correct equation, -1 each error (Omission of g is one error) If both weight cpts are negative, treat as one error.		
	Third A1 for 1.05 or 1.1 (m s^{-2}) **N.B.** Note that $T = 820$ again but if they just assume that $T = 820$, M0		