June 2019
Mechanics 2 – WME02
Mark Scheme

Question Number	Scheme	Marks
1a	Equation of motion: $F = R + 800g\sin\theta$ $= R + 80g$ Use of $P = Fv$: $F = \frac{15000}{12}\left(=1250\right)$ $R\left(=1250-80g\right) = 470\text{N}$ or 466	M1 A1 B1 A1 cao **(4)**
1b	Equation of motion: $\frac{15000}{12} + 80g - 500 = 800a$ $a = 1.9$ (m s^{-2}) or $a = 1.92$	M1A1 A1 cao **(3)**
		Total 7

Notes	
(a)	
M1	Equation of motion with Driving Force, Resistance and resolved Weight.
A1	Correct equation
B1	Use of $P = Fv$. Might be on diagram.
A1cao	470 N (466 N). **Must be 2 or 3 s.f.**
(b)	
M1	Equation of motion with Driving Force, Resistance, resolved Weight and *ma*.
A1	Correct equation, including correct driving force.
A1cao	$a = 1.92$ (m s^{-2}) or 1.9 (m s^{-2}) Accept -1.92. **Must be 2 or 3 s.f., but do not penalise if lost in (a).**