10	**(a)**		$3g - 16.8 = 3a$ $a = \frac{3g - 16.8}{3} = 4.2\,(\text{m s}^{-2})$	**M1** **A1** **[2]**	**3.3** **1.1**	N2L for Q – correct number of terms with the correct mass. Condone sign errors	**M0** if using $3g$ for the mass but allow g missing from the net force
10	**(b)**		$16.8 - F_P = 2.5(4.2)$ $16.8 - 2.5(4.2) = \mu(2.5g)$ $\mu = 0.257$	**M1*** **M1dep*** **A1** **[3]**	**3.3** **3.4** **1.1**	N2L for P horizontally using $T = 16.8$ and their a (but not ± 9.8) from **(a)** – allow sign errors but must have correct number of terms and correct mass (^{1} 3) – if correct $F_P = 6.3$ Use of $F = \mu R$ for P with $R = 2.5g$ awrt 0.257 – condone working with F „ μR provided that the value of μ is explicitly stated (and not left in an inequality)	F_P is the friction between P and B 0.257142857… allow $\frac{9}{35}$
10	**(c)**		$R_B = 2.5g + Mg$ $6.3 \text{„} \frac{5}{49}(2.5g + Mg)$ M …3.8 so least possible value for the mass of B is 3.8 (kg)	**M1*** **M1dep*** **A1** **[3]**	**3.1b** **3.4** **2.2a**	Resolving vertically for B – correct number of terms, allow sign errors and condone g's missing Use of F „ μR or $F = \mu R$ with correct R and $\mu = \frac{5}{49}$ with F being their F_P from **(b)** where F_P ^{1} 16.8 3.8 - allow use of '=' throughout this part	Where M is the mass of B No g's missing for this mark No justification required