Question Number	Answer	Mark
12(a)	• Laminar/non-turbulent flow **Or** Slow moving sphere (1)	**(1)**
12(b)	• Use of $W = mg$ (1) • $W = U + D$ (1) • Use of $F = 6\pi r\eta v$ (1) • Use of $W = U + D$ to obtain quantity to compare, *e.g.* $D = (-)\ 7.8 \times 10^{-3}$ (N) (1) • Comparison leading to valid conclusion from candidate's calculation. e.g. $F = 2.5 \times 10^{-5}$ N $\neq D$ **or** v = 155 m s^{-1} $\neq$ 0.5 m s^{-1} *et al.* (1) Example of calculation $W = 9.1 \times 10^{-4}$ kg $\times$ 9.81 N kg^{-1} = 9.0×10^{-3} N $\Sigma F = 9.0 \times 10^{-3}$ N – 1.1×10^{-3} N – drag = 0 Drag = (–) 7.9×10^{-3} N $F = 6 \times \pi \times 3.0 \times 10^{-3}$ m $\times$ 8.9×10^{-4} Pa s $\times$ 0.50 m s^{-1} $F = 2.5 \times 10^{-5}$ N	**(5)**
	Total for question 12	**6**