Question Number	Answer	Mark
12(a)	(Use balance to measure) mass and multiply mass by *g* to determine weight **Or** Use the balance set to read newtons to determine weight (of ball) **(1)** Measure the <u>diameter</u> (of the ball) (with the calliper) to determine volume **(1)** Identify upthrust with weight of fluid displaced **(1)** Calculate the weight of fluid displaced by multiplying the volume of the ball by the density of the liquid and *g* **(1)**	**4**
12(b)	Use of $F = 6\pi \eta r v$ **(1)** $\eta = 2.2 \times 10^{2}$ Pa s **(1)** <u>Example of calculation</u> $1.1 \times 10^{-2}\ \text{N} = 6\pi \times \eta \times 0.50 \times 10^{-2}\ \text{m} \times 5.4 \times 10^{-4}\ \text{m s}^{-1}$ $\eta = 1.1 \times 10^{-2}\ \text{N} \div (6\pi \times 2.7 \times 10^{-6}\ \text{m}^2\ \text{s}^{-1}) = 216$ Pa s	**2**
	Total for question 12	**6**