2 **(a)** **(i)** Define pressure.

.....

..... [1]

(ii) Explain how hydrostatic pressure results in an upthrust force acting on a solid object immersed in a liquid.

.....

.....

.....

..... [2]

(ii) Determine the SI base units of η.

base units ..... [2]

(c) The oil in **(b)** has a density of 920 kg m^{-3} and a viscosity of 4.7 in SI units.

The steel ball has a mass of 2.4×10^{-3} kg and a radius of 4.2×10^{-3} m.

(i) Show that the upthrust force acting on the ball is 2.8×10^{-3} N.

[1]

(ii) Determine the terminal speed v of the ball.

v = ... m s^{-1} [3]

[Total: 12]