Answer **all** the questions in the spaces provided.

1 **(a)** Define *density*.

....

.... [1]

(b) Explain how the difference in the densities of solids, liquids and gases may be related to the spacing of their molecules.

....

....

....

.... [2]

(c) A paving slab has a mass of 68 kg and dimensions 50 mm × 600 mm × 900 mm.

(i) Calculate the density, in $kg\,m^{-3}$, of the material from which the paving slab is made.

density = ... $kg\,m^{-3}$ [2]

(ii) Calculate the maximum pressure a slab could exert on the ground when resting on one of its surfaces.

pressure = ... Pa [3]