1 **(a)** State the most appropriate instrument, or instruments, for the measurement of the following.

(i) the diameter of a wire of diameter about 1 mm

..... [1]

(ii) the resistance of a filament lamp

..... [1]

(iii) the peak value of an alternating voltage

..... [1]

(b) The mass of a cube of aluminium is found to be 580 g with an uncertainty in the measurement of 10 g. Each side of the cube has a length of (6.0 ± 0.1) cm.

Calculate the density of aluminium with its uncertainty. Express your answer to an appropriate number of significant figures.

density = ... ± ..... $g\,cm^{-3}$ [5]