

1 (a) Explain what is meant by the accuracy of a measured value.

.....
..... [1]

(b) Two solid cubes, A and B, are measured to determine the density of their materials.

Table 1.1 shows the measurements for cube A.

Table 1.1

quantity	measurement
length of side	(1.53 ± 0.01) cm
mass	(31.3 ± 0.5) g

(i) Show that the calculated density of the material of cube A is $8.7 \times 10^3 \text{ kg m}^{-3}$.

[2]

(ii) Calculate the percentage uncertainty in the density of the material of cube A.

percentage uncertainty =% [2]

(iii) The density of the material of cube B is determined to be $9.2 \times 10^3 \text{ kg m}^{-3} \pm 6\%$.

State and explain whether cube A and cube B could be made from the same material.

.....
.....
.....
..... [2]

[Total: 7]