7 **(a)** State **one** difference between a hadron and a lepton.

.....

.....[1]

(b) **(i)** State the quark composition of a proton and of a neutron.

proton: .....

neutron: .....
[2]

(ii) your answer in **(i)** to determine the quark composition of an α-particle.

quark composition: .....[1]

(c) The results of the α-particle scattering experiment provide evidence for the structure of the atom.

result 1: The vast majority of α-particles pass straight through the metal foil or are deviated by small angles.

result 2: A very small minority of α-particles are scattered through angles greater than 90°.

State what may be inferred from

(i) result 1,

.....

.....[1]

(ii) result 2.

.....

.....

.....

.....[2]