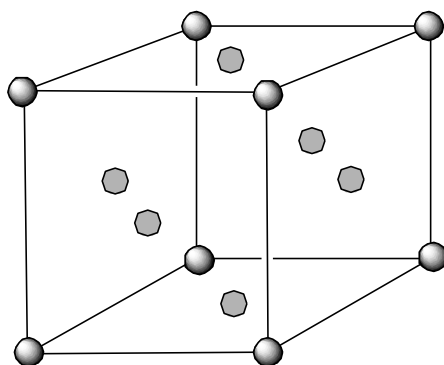


- The diagram below shows the structure of an alloy of copper and gold with a gold atom at each of the corners and a copper atom in the centre of each of the faces.

Marks
2



● = Au

● = Cu

What is the chemical formula of the alloy?

There are 8 Au atoms on the corners: each contributes $1/8$ to the unit cell so the net number of Au atoms is $8 \times 1/8 = 1$.

There are 6 Cu atoms on the faces: each contributes $1/2$ to the unit cell so the net number of Cu atoms is $6 \times 1/2 = 3$.

Answer: **Cu₃Au**