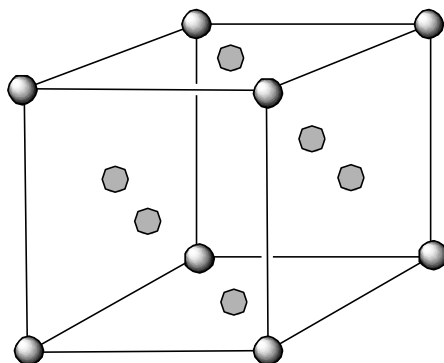


- The diagram below shows the structure of an alloy of copper and gold with a gold atom at each of the corners and a copper atom in the centre of each of the faces.

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 cell. The total number of Au atoms is  $8 \times 1/8 = 1$ .**

**There are 6 Cu atoms on the faces, each contributes 1/2 to the cell. The total number of Cu atoms is  $6 \times 1/2 = 3$**

Answer: **Cu<sub>3</sub>Au (or AuCu<sub>3</sub>)**