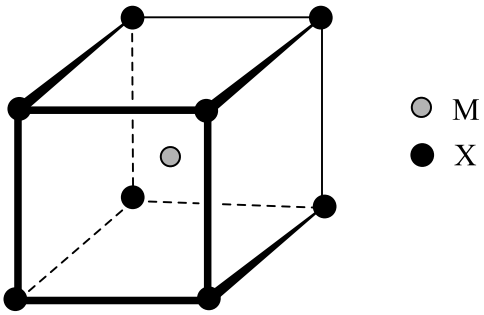
Marks 2

- The unit cell below has a cation (M) at the centre of the cell and anions (X) at the corners.



What is the formula of the compound?

Number of M atoms = 1 (at the centre).
Number of X atoms = 8 × 1/8 (corners) = 1.
Hence, formula = M_1X_1 = MX

What is the coordination number of each type of ion?

Each M is surrounded by the 8 X atoms on the corners: the coordination number of M is 8.
Each X is on the corner of 8 unit cells, each with an M at its centre: the coordination number of X is also 8.

THE REMAINDER OF THIS PAGE IS FOR ROUGH WORKING ONLY.