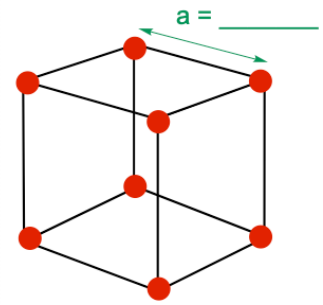
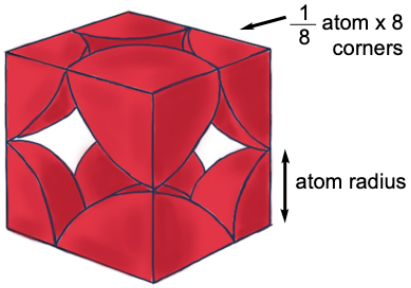
CONCEPT: SIMPLE CUBIC UNIT CELL

- The **Simple (Primitive) Cubic Unit Cell**: composed of a cube with an atom at each corner and ___ atom(s) in the center.

Simple Cubic Unit Cell

- □ Only contains ___ atom
  - _____ atom(s) in the center
- □ Edge length (a) = _____
- □ Packing Efficiency = _____
- □ Coordination Number = ____





EXAMPLE: Calculate volume in cm^3 of a simple cubic unit cell if its composed of atoms with radius of 2.5 Å.

PRACTICE: Polonium crystallizes with a primitive cubic structure. It has a density of 9.4 g/cm^3, a radius of 167 pm, and a molar mass of 209 g/mol. Calculate the number of atoms in one mole of Polonium.

a) 6.0×10^{-23} b) 3.2×10^{11} c) 6.0×10^{23} d) 1.7×10^{15}