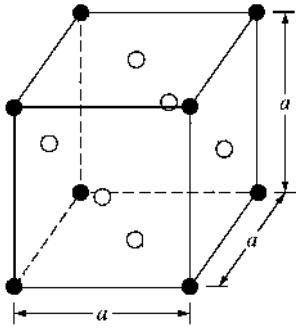
1.1 Determine the number of atoms per unit cell in a (*a*) face-centered cubic, (*b*) body-centered cubic, and (*c*) diamond lattice.

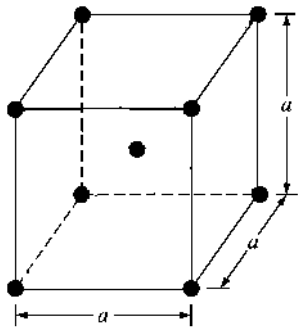
a)



atoms/unit cell = 8 corners (1/8 atoms/corner) + 6 faces (1/2 atoms/face) = 1 + 3

 # atoms/unit cell = 4

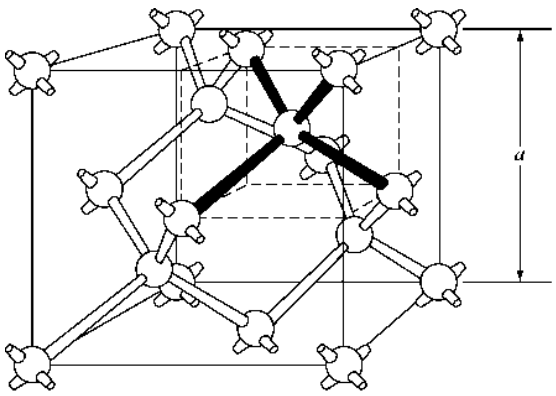
b)



atoms per unit cell = 8 corners (1/8 atoms/corner) + 1 atom in center = 1 + 1

 # atoms/unit cell = 2

c)



atoms/unit cell = 8 corners (1/8 atoms/corner) + 6 faces (1/2 atoms/face) + 4 interior
= 1 + 3 + 4

 # atoms/unit cell = 8