For Monday, February 15:

(6) Simon 12.5

(7) Simon 13.1

(8) Simon 13.5

(9) Simon 14.8(b)


(11) For the FCC lattice develop and expression for the \((\text{distance})^2\) from a reference lattice point taken as the origin (a corner point in the conventional cell) to an arbitrary lattice point at \(n_1\mathbf{a}_1 + n_2\mathbf{a}_2 + n_3\mathbf{a}_3\). Use for primitive vectors the vectors connecting your reference lattice point and three adjacent face-centered points, i.e., equal length primitive vectors. Give your answer in terms of the \(n\)’s and the conventional unit cell lattice constant \(a\).

(12) Shade in examples of the specified planes as in the example on the left. Show two adjacent (111) planes. Find the (perpendicular) distance (in terms of the cubic lattice constant \(a\)) between your (111) planes.