

Homework 02

Read: Ch 2

Due date: Friday, 15 Feb 2019 by 11:59 PM [note deviation from syllabus due date!]

Work problems 1.1, 1.4, 1.16, 1.17, 1.18, 1.19, 1.23, 1.29, 1.30, 1.31, 1.34, 2.2 in the text.

AQ 1: The primitive vectors for an FCC structure, \mathbf{a} , \mathbf{b} , and \mathbf{c} , are shown in the figure. Write down expressions for \mathbf{a} , \mathbf{b} , and \mathbf{c} in terms of the length of one edge, d , and the Cartesian unit vectors. Show that the points A, B, C, and D can be specified by position vectors of the form $\mathbf{R}_{lmn} = l\mathbf{a} + m\mathbf{b} + n\mathbf{c}$ where l , m , and n are integers. Determine the values of l , m , and n in each case.

