

Solutions

Quiz 1

1) Lattice vectors (not unique + (arb) interchangeable):

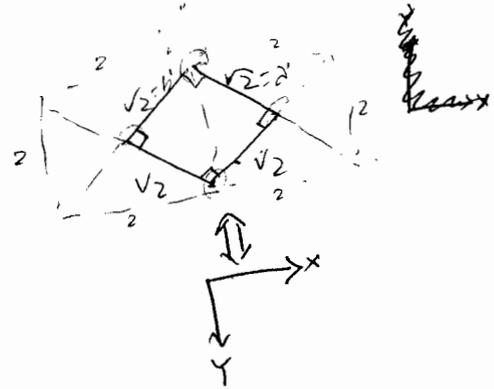
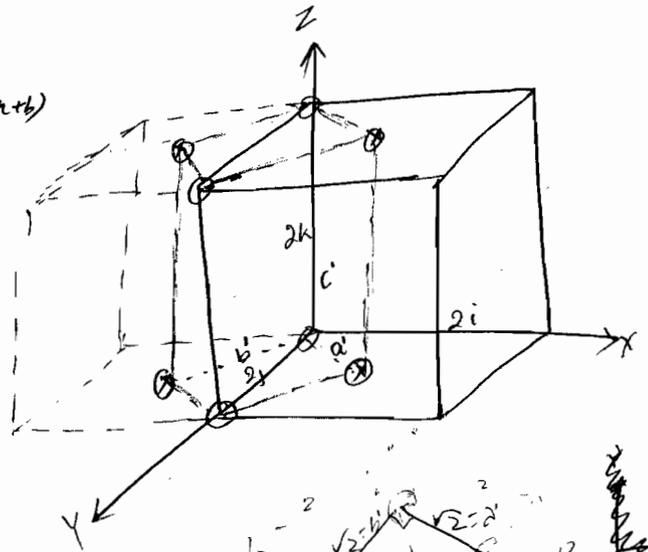
$$a = i + j$$

$$b = -i + j$$

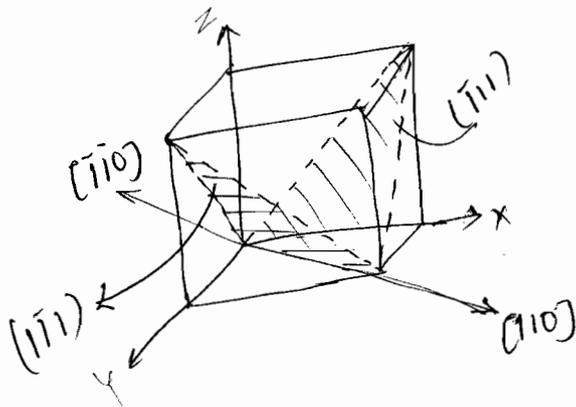
$$c = 2k$$

Primitive cell lattice structure: Tetragonal

$$\text{Volume} : \sqrt{2} \times \sqrt{2} \times 2 = 4 \text{ unit}^3$$



2)



3) (2, 3, 6)

Intercept : 3, 4, 5
 Intercept in units : $3, \frac{4}{2}, \frac{5}{5} = 3, 2, 1$
 Inverse : $\frac{1}{3}, \frac{1}{2}, 1$
 Rationalize : (2, 3, 6)