1) a)

(111)

[110]
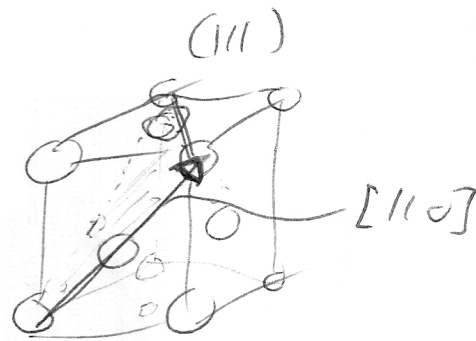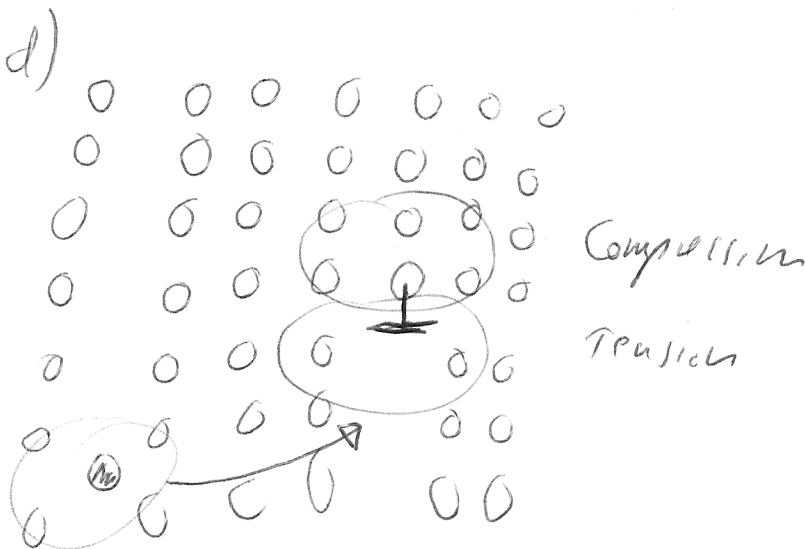
b) This is the slip system for FCC.

c) We can calculate the yield stress for motion of an entire plane of atoms

$$\tau \sim \frac{G}{2\pi} \sim 3 - 30 \, GPa$$

& this is 100 to 1000 times the observed yield stress

d)

Compression

Tension

Compression

The interstitial atom will tend to locate at the dislocation to relieve the tension. This makes motion of the dislocation more difficult