

## Quiz 15

Monday, May 15, 2017 12:22 PM

### DETERMINING THE FERMI ENERGY, $E_F$ .

Consider a material with volume  $V$  and density of states

$$D_{3d}(E) = \begin{cases} (\text{constant}) \cdot E^{1/2} & E > 0 \\ 0 & E < 0 \end{cases}$$

These states are occupied by  $N$  electrons.

Find an expression for  $E_F$ , the energy of the "highest occupied wavefunction."