

**A couple of past band theory problems:**

A n-doped and a p-doped semiconductor can be brought together to form a light emitting diode (LED). Explain what an LED does and explain what p-doped and n-doped semiconductors are.

\_\_\_\_\_ a. An element that you could n-dope Si with

b. Type of semiconductor doping that adds elements with fewer electrons \_\_\_\_\_

Explain where the “bands” in band theory come from in a metal and in a semiconductor. How do they differ in the conductivity and why?