## Chapter 36 Problem $28{ }^{\dagger}$



## Solution

Use shell notation to characterize the outermost electron of rubidium.
Since rubidium has an atomic number of 37 , it has 37 protons and 37 electrons. Using the shell filling diagram place two electrons (spin-up, spin-down) in each subshell.


When this is done, the last electron goes into the $5 s$ subshell. The full electronic structure of rubidium is

$$
1 s^{2} 2 s^{2} 2 p^{6} 3 s^{2} 3 p^{6} 3 d^{10} 4 s^{2} 4 p^{6} 5 s^{1}
$$

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[^0]:    ${ }^{\dagger}$ Problem from Essential University Physics, Wolfson

