Name _____ Date _____ Class _____

CHAPTER 4 REVIEW

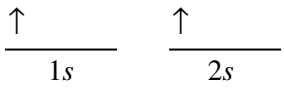
Arrangement of Electrons in Atoms

SECTION 3

SHORT ANSWER **Answer the following questions in the space provided.**

1. State the Pauli exclusion principle, and use it to explain why electrons in the same orbital must have opposite spin states.

2. Explain the conditions under which the following orbital notation for helium is possible:



Write the ground-state electron configuration and orbital notation for each of the following atoms:

3. Phosphorus

4. Nitrogen

5. Potassium

Name _____ Date _____ Class _____

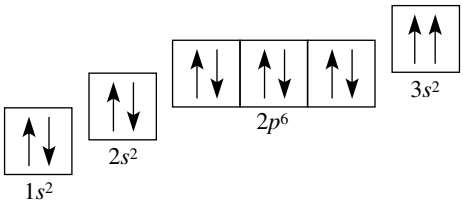
SECTION 3 continued

6. Aluminum

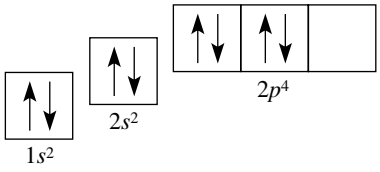
7. Argon

8. Boron

9. Which guideline, Hund's rule or the Pauli exclusion principle, is violated in the following orbital diagrams?



a. _____



b. _____