

## QUANTUM NUMBERS WORKSHEET

State the four quantum numbers, then explain the possible values they may have and what they represent

Give the  $n$  and  $l$  values for the following orbitals

a. **1s**

b. **3s**

c. **2p**

d. **4d**

e. **5f**

What are the  $m_l$  values for the following types of orbitals?

a. **s**

b. **p**

c. **d**

d. **f**

Write the condensed electron configurations for the following:

a. **Br**

b. **S**

c. **Be<sup>+</sup>**

Write the complete set of quantum numbers that represent the valence electrons for the following elements:

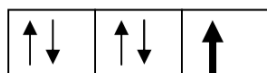
a. **P**

b. **Cl**

c. **Na**

Write the values for the quantum numbers for the bold electron in the following diagrams:

a. **3p orbitals**



b. **5s**



c. **4d orbitals**

