6. Give the ground state electron configuration for the following elements using shorthand notation and orbital notation:

- Ar: \[ 1s^2 \ 2s^2 \ 2p^6 \ 3s^2 \ 3p^6 \] [Ne] \[ 3s^2 \ 3p^6 \]

- Si: \[ 1s^2 \ 2s^2 \ 2p^6 \ 3s^2 \ 3p^2 \] [Ne] \[ 3s^2 \ 3p^2 \]

7. In what period and group do the elements with the following electron configurations belong?

- \[ 1s^2 \ 2s^2 \ 2p^6 \ 3s^2 \ 3p^6 \] [Ne] \[ 3s^2 \ 3p^6 \]