

Electron config review

- a) Li  $1s^2 2s^1$
- b) C  $1s^2 2s^2 2p^2$
- c) Na  $1s^2 2s^2 2p^6 3s^1$
- d) Ca  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$
- e) O  $1s^2 2s^2 2p^4$
- f) Cl  $1s^2 2s^2 2p^6 3s^2 3p^5$
- g) Al  $1s^2 2s^2 2p^6 3s^2 3p^1$
- h) Be  $1s^2 2s^2$

- i) Be (beryllium)
- j) S (sulfur)
- k) N (nitrogen)
- l) Mn (manganese)

- 3 orbitals in p
- 7 orbitals in f
- 1 orbital in s
- 5 orbitals in d

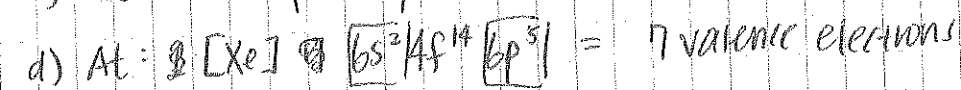
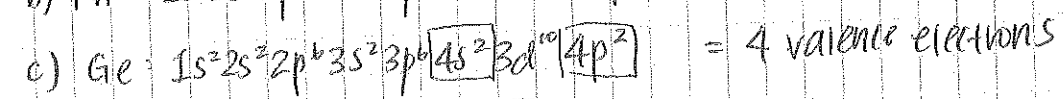
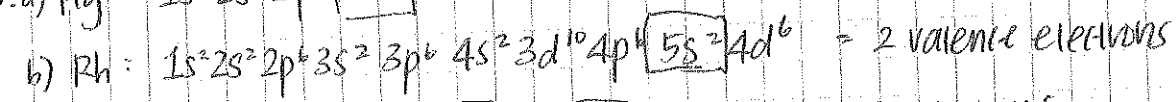
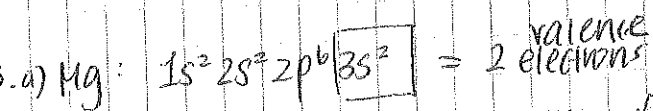
4. ~~8~~
- a) N
  - b) Mn
  - c) Ca
  - d) Dy

- e  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^2$
- u  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^9$
- b  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6 6s^2 4f^{14} 5d^{10} 6p^2$
- i  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^2$
- v  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^1$
- Am  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6 6s^2 4f^{14} 5d^{10} 6p^6 7s^2 5f^{14}$

- a) Br p: 35  
n: 45  
e: 35
- b) I<sup>-</sup> p: 53  
n: 74  
e: 54
- c) Sr<sup>2+</sup> p: 38  
n: 50  
e: 36
- d) <sup>45</sup>Sc p: 21  
n: 24  
e: 21

- <sup>115</sup>/<sub>48</sub> Cd<sup>2+</sup> p: 48  
n: 67  
e: 46
- f) As<sup>3-</sup> p: 33  
n: 42  
e: 36

- 17.
- $3s$  is the orbital after  $2p$
  - $7p$  is the orbital after  $5f$ .
  - $4p$  is the orbital after  $3d$
  - $7s$  is the orbital after  $6p$ .



# orbitals in each level

# of electrons that can fit in this type

In which energy level does this first appear.

s	p	d	f
1	3	5	7
2	6	10	14
1	2	3	4

18. Hydrogen atom.

- $2 \rightarrow 1$
- $3 \rightarrow 1$
- $3 \rightarrow 2$
- $4 \rightarrow 2$
- $5 \rightarrow 3$
- $4 \rightarrow 3$