

Fill in these blanks about quantum numbers.

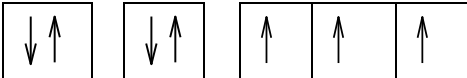
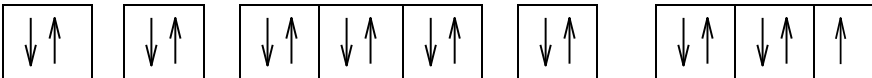
- The maximum number of electrons in the third energy level ($n=3$) is _____.
- Pair the following elements of electronic configurations which have the same properties.

Pairs	Electronic Configuration
	A) $1s^2 2s^2 2p^6 3s^2$
	B) $1s^2 2s^2 2p^3$
	C) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6$
	D) $1s^2 2s^2$
	E) $1s^2 2s^2 2p^6$
	F) $1s^2 2s^2 2p^6 3s^2 3p^3$

- Name the elements whose electron configurations are:

Element	
	a) $1s^2 2s^2 2p^6 3s^2 3p^6$
	b) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^3$

- Name the elements whose box electron configurations are:

Element	
	
	

- Without looking at the periodic table, write the spdf notation (electronic configuration) of the elements with the following atomic numbers:
 - 10
 - 22
 - 28
- Identify which element have the following electronic configurations?
 - $[\text{Ar}] 4s^1$
 - $[\text{Ar}] 4s^2 3d^{10} 4p^3$

7. Write the spdf and box configuration for each of these. Do not use noble gas notation.

a) potassium

b) copper

c) bromine

d) manganese

8. Write the spdf and box configuration of the following ions. Do not use noble gas notation.

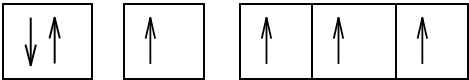
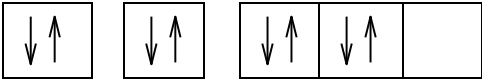


a) Cr^{2+}

b) I

9. Write and explain what is wrong with the following configurations? Write your answer clearly and give the correct answer are:

Element	
a) Al: $1s^2 2s^2 2p^6 3s^3 3p^1$	
b) V: $1s^2 2s^2 2p^6 3s^2 3p^6 3d^5$	
c) As: $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 4d^{10} 4p^3$	

10. What is wrong with the following configurations? Write your answer clearly and give the correct answer.

Element	
C	
Answer	
O	
Answer	
Ti	
Answer	
Br	<p>[Ar]</p> 
Answer	