

1 Atomic Structure

1.0.1 Atomic Number

1. The _____ is the number of _____ in the nucleus of an atom.

1.0.2 Mass Number

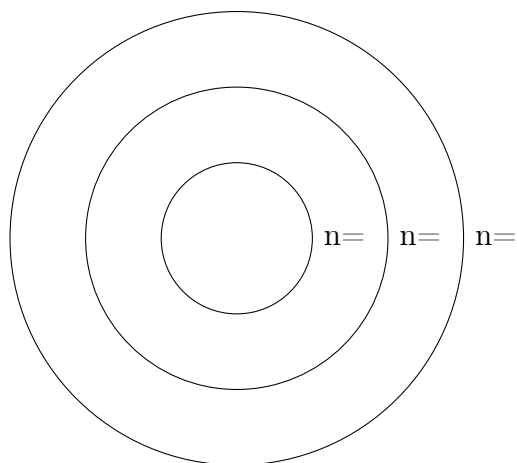
2. The _____ is the total number of _____ and _____ in the nucleus of an atom.
3. In this symbol for Hydrogen: ${}^1\text{H}$ What does the 1 mean? _____
4. In this symbol for Helium: ${}^4_2\text{He}$
- What does the 4 mean? _____
 - What does the 2 mean? _____
5. In this symbol for Lithium: ${}^7_3\text{Li}$
- How many protons does Lithium have? _____
 - How many neutrons does Lithium have? _____
6. based on this symbol: ${}^2\text{H}$
- How many protons does Hydrogen have? _____
 - How many neutrons? _____

1.1 Bohr Model

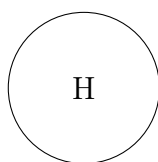
7. The Bohr Model - Bohr proposed that an atom was a nucleus with electrons "orbiting" in different _____.
8. Electrons can only have certain energy values known as _____

1.1.1 Energy Levels

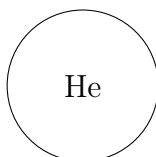
9. The electrons closest to the nucleus have the _____ energy, while those further from away have _____ energy.



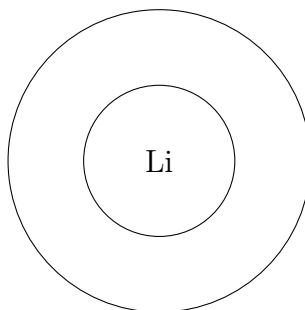
10. draw the electron configuration for H



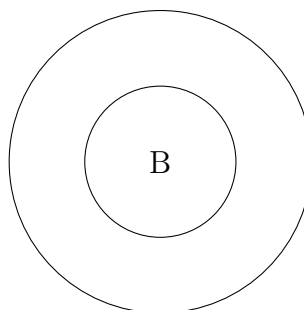
11. draw the electron configuration for He

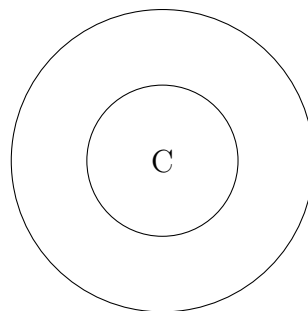


12. draw the electron configuration for Li

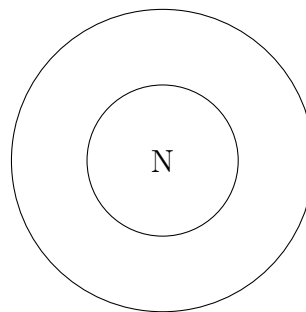


13. draw the electron configuration for Boron B

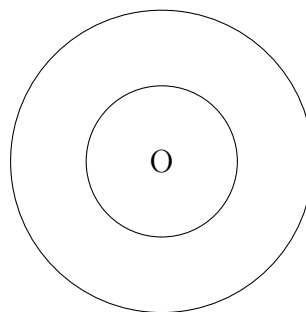




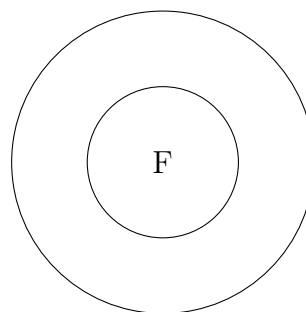
14. draw the electron configuration for Carbon C



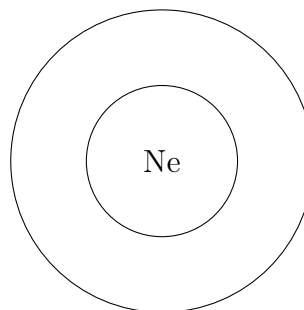
15. draw the electron configuration for Nitrogen N



16. draw the electron configuration for Oxygen O



17. draw the electron configuration for Flourine F



18. draw the electron configuration for Neon Ne

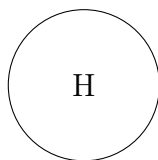
2 periodic table

Group →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Period ↓	1 H																	2 He
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba	57-71 *	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra	89-103 **	104 Rf	105 Db	106 Sg	107 Bh	108 Hs										

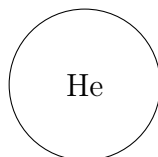
6*	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu
7**	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr

19. The Periodic Table has _____ periods and _____ groups.
20. The periods are _____ and the groups are _____.
21. You can know the _____ configuration of an element from its _____ in the periodic table.
22. The number of electron _____ (or energy levels) is equal to the _____ number.
23. The number of valence electrons is related to the _____ number.
24. For atoms in groups _____ and _____ the number of _____ electrons are equal to the group number.
25. For atoms in groups _____ to _____ the number of _____ electrons are equal to the group number minus 10.

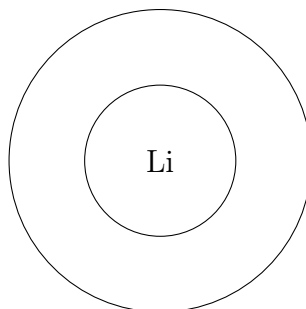
2.0.1 Practice



26. draw the electron configuration for H
How many valence electrons does it have? _____

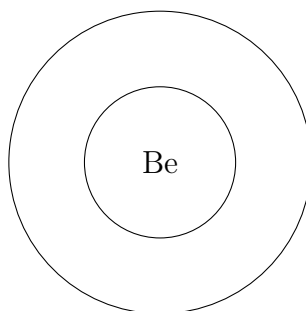


27. draw the electron configuration for He
How many valence electrons does it have? _____



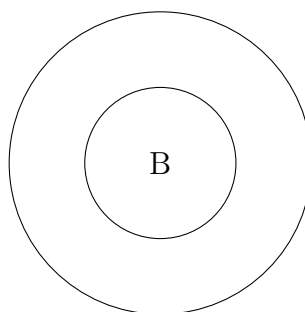
28. draw the electron configuration for Li

How many valence electrons does it have? _____



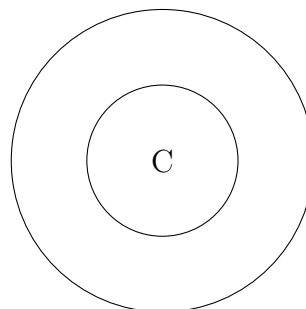
29. draw the electron configuration for Be

How many valence electrons does it have? _____



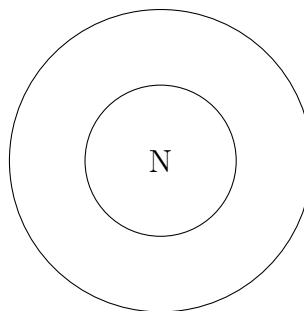
30. draw the electron configuration for Boron B

How many valence electrons does it have? _____



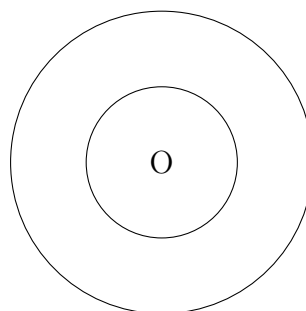
31. draw the electron configuration for Carbon C

How many valence electrons does it have? _____



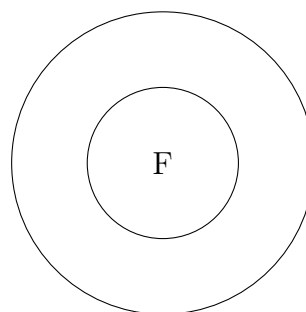
32. draw the electron configuration for Nitrogen N

How many valence electrons does it have? _____



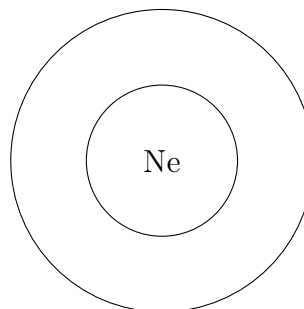
33. draw the electron configuration for Oxygen O

How many valence electrons does it have? _____



34. draw the electron configuration for Fluorine F

How many valence electrons does it have? _____



35. draw the electron configuration for Neon Ne

How many valence electrons does it have? _____

