

HW #8 p166 #22, 23, 24, 27, 28, 29, 30, 31, 32, 36

(22.) (a) The size of the atom from nucleus to outer most shells

(b) Going left to right the radius decreases in size

(c) The outer electrons are in the same shell, but since the nucleus charge (# of protons) increases, the outer electrons are pulled in closer as you move across the table.

(23.) (A) The radius increase moving down a group.

(B) As you add shells (rings) the radius becomes larger and larger.

(24.) (a) Ion - an atom that has gained or lost an electron.

(b) Ionization \rightarrow the act of removing an electron ~~for~~ from an atom.

(c) 1st ionization energy \rightarrow The energy to remove one electron.

(d) 2nd " " \rightarrow " " " " a second electron.

(27.) (A) A cation has a positive charge (lost an electron)

An anion has a negative charge (gained an electron)

(B). A cation will decrease in size once you lose an e^- .
(more p^+ than e^-)

An anion will increase in size when you gain an e^- .
(more e^- than p^+)

(28.) (a) The e^- on the outermost energy levels. They are involved in bonding.

(b) OUTERMOST ENERGY LEVELS.

(29.) (A) Lost } Mostly
(B) Lost } metals
(C) Lost } (D) Gained } Nonmetals
(E) Gained }

(F) NEITHER } Noble Gases
do not react.

30. (A) ELECTRONEGATIVITY IS THE ABILITY TO GAIN AN ELECTRON BY AN ATOM

(B) IT IS THE MOST ELECTRONEGATIVE ATOM.

(31) Most \rightarrow Halogens

least \rightarrow Noble gases or Alkali metals.

(32) Gold is the smallest. The atoms are in the same period. The size will decrease moving to the right of the table because of the increased # of protons.

36. (A) K^{+2} is least likely (It will only ~~lose~~ lose $1e^{-}$)

(B) ALL OF THESE ARE LIKELY TO FORM.