AP CHEMISTRY

TOPIC 1: CHEMICAL FOUNDATIONS, PART B

Day 3:

- Early History of Chemistry
- Fundamental Chemical Laws
- Dalton's Atomic Theory
- The atom, and its components

Homework problems:

1) Which of the following is true about an individual atom? Explain your choice.
   a) An individual atom should be considered to be a solid
   b) An individual atom should be considered to be a liquid
   c) An individual atom should be considered to be a gas
   d) An individual atom cannot be considered to be a solid, liquid, or gas.

   answer:

   The "state" of an element can only be determined by the amount of energy present AND with many other atoms together.

2) What evidence led to the conclusion that cathode rays had a negative charge (recall from general chem.)

   answer:

   Something to the effect – the light was bent by a positive or negative charge from an electromagnetic source

3)

Symbol	Number of Protons in Nucleus	Number of Neutrons in Nucleus	Number of Electrons	Net Charge
* $^{75}_{33}As^{3+}$	33	42	***30***	3+
$^{128}_{52}Te^{2-}$	***52***	***76***	***54***	***2-***
* $^{32}_{16}S$	16	16	16	***0***
* $^{204}_{81}Tl^{1+}$	81	123	***80***	1+
$^{238}_{92}U$	***92***	***146***	***92***	***0***
$^{195}_{78}Pt$	***78***	***117***	***78***	***0***
* $^{40}_{20}Ca^{2+}$	20	20	***18***	2+
$^{89}_{39}Y$	***39***	***50***	***39***	***0***
* $^{79}_{35}Br^{1-}$	35	44	36	***1-***
* $^{31}_{15}P^{3-}$	15	16	***18***	3-
* $^{129}_{53}I^{1-}$	***53***	76	54	1-
$^{120}_{50}Sn^{4+}$	***50***	***70***	***46***	***4+***
* $^{12}_{6}C^{4+}$	6	6	***2***	4+