

Homework #2 (Graphing & Physical/Chemical Properties and Changes)

CHEM 11 (S 2016, LAC)

(Due Tuesday, February 9)

Note: You must show your work where appropriate; correct answers by themselves do not get credit. Also remember to apply significant digits to round your answers appropriately.

1. Plot the following data on a graph with the mass number (M) of each atom on the vertical axis and the atomic number (A) on the horizontal axis. Then draw a best straight line that goes through the middle of the data and find its equation. The graph must cover a good part of a whole sheet so that it is most accurate. The mass number is given below, but the atomic number must be picked up from a periodic table.

Hydrogen-1	Oxygen-16	Silicon-28
Hydrogen-2	Oxygen-17	Silicon-29
Helium-3	Oxygen-18	Silicon-30
Helium-4	Fluorine-19	Phosphorus-31
Lithium-6	Neon-20	Sulfur-32
Lithium-7	Neon-21	Sulfur-33
Beryllium-9	Neon-22	Sulfur-34
Boron-10	Sodium-23	Sulfur-36
Boron-11	Magnesium-24	Chlorine-35
Carbon-12	Magnesium-25	Chlorine-37
Carbon-13	Magnesium-26	Argon-36
Nitrogen-14	Aluminium-27	Argon-38
Nitrogen-15		Argon-40

(Source: https://en.wikipedia.org/wiki/Stable_nuclide)

2. Place the appropriate letters in front of each statement as appropriate (PP for physical property, CP for chemical property, PC for physical change, and CC for chemical change)..

___ Liquid water freezes into ice.

___ Liquid water boils at 100° C when under 1.00 atmospheres of pressure.

___ Liquid water decomposes into oxygen and hydrogen gas when an electrical current runs through it.

___ Small sections of pizza dough are baked to hot in an oven so that they become black, that is, are burned.

___ Large granules of salt are broken into much smaller granules when crushed by a hammer.

___ One molecule of water can form when one atom of oxygen combines with two of hydrogen.