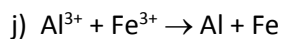
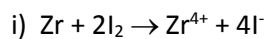
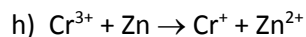
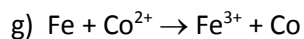
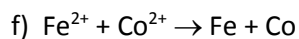
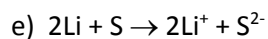
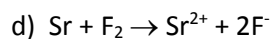
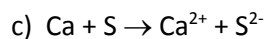
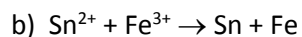
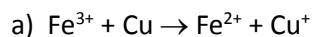


Directions: 40 minutes without notes; only non-programmable calculator and your partner; 10 minutes with notes; remaining 25 minutes on board.

1) Identify the reactant that is oxidized and the reactant that is reduced in the following reactions (NOTE: They may not be balanced! Don't worry about it.)



2) Now identify the reducing and oxidizing agents in #1, a-j:

3) Now go through and determine electron gain and loss for #1 a-j:

4) The oxidizing agent is always \_\_\_\_\_.

5) The reducing agent is always \_\_\_\_\_.

6) The oxidizing agent \_\_\_\_\_ electrons.

7) The reducing agent \_\_\_\_\_ electrons.

8) Elements in Groups \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ lose electrons when they ionize.

9) Elements in #8 have a \_\_\_\_\_ ionic radius compared to their atomic radius.

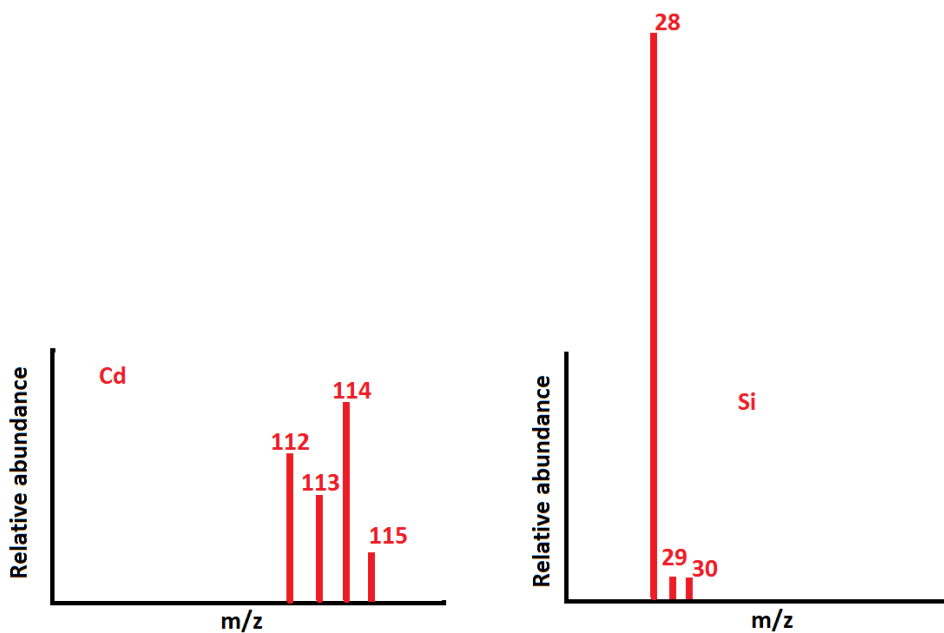
10) Elements in Groups \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ gain electrons when they ionize.

11) Elements in #10 have a \_\_\_\_\_ ionic radius compared to their atomic radius.

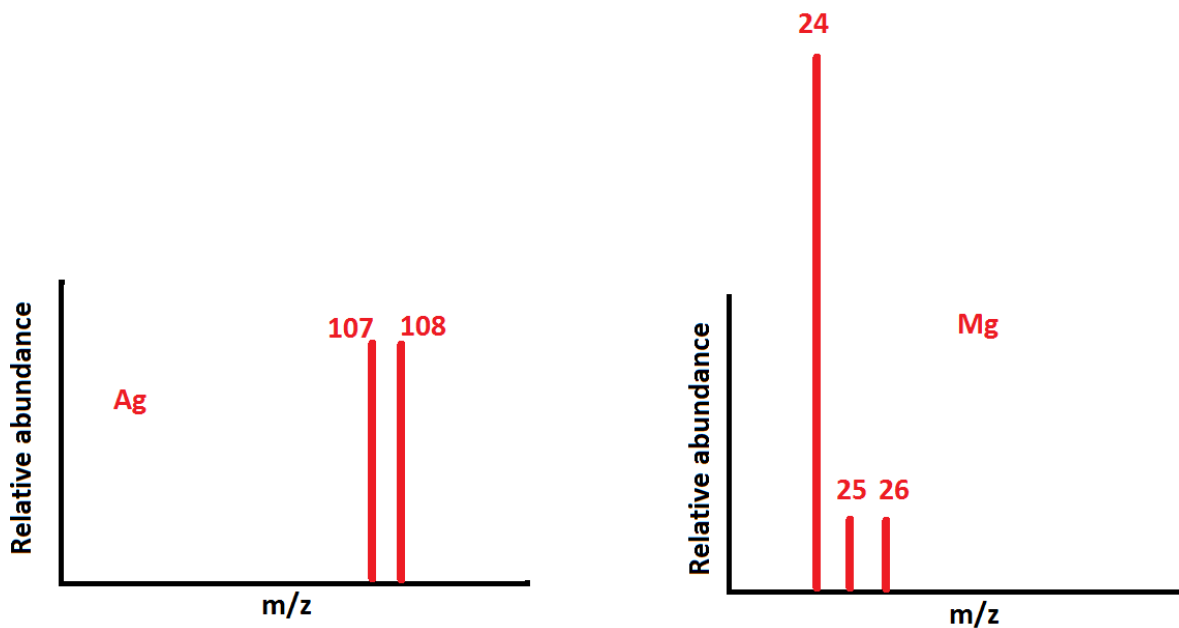
12) In the space below, sketch out the general layout of a mass spectrometer. Remember to label it, as well.

13) Describe the three “beams” that the sample beam is split into. Explain why the heavy, light and “correct” beams behave as they do.

14) In the mass spectra, below, qualitatively indicate the relative abundances of the isotopes for each element:



15) In the mass spectra, below, qualitatively indicate the relative abundances of the isotopes for each element:



16) Define Freezing Point:

17) Define Melting Point:

18) Define Boiling Point:

19) Define Flash Point:

20) Define Critical Pressure:

21) Define Critical Temperature:

22) What's the purpose of the electron gun in a mass spectrometer?

23) What's the purpose of the cathode in a mass spectrometer?

24) What's the purpose of the anode in a mass spectrometer?

25) What's the purpose of the heat coil in a mass spectrometer?

26) In the space below, pick a topic in today's reading that you didn't think was explained very well. Explain it clearly, concisely and neatly in the space below. You may do this specific question before you come to class, this time.