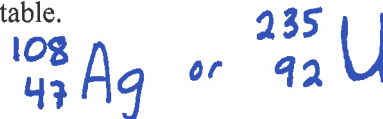


Observe the element and answer the questions for each station. Please note:

1. Make your observations brief – just 2-3 words. Examples: “Shiny, silver, liquid.” “Dull, red, solid.” “Colorless gas.”
2. If you are asked to calculate an atomic mass, show work. Include units on your answer. In most cases, your answer should have the same number of decimal places as the given isotope masses. Your answer should match, or be close to, the mass shown on the periodic table.
3. When you write a symbol, show both the top and bottom number, for example:



#1 Element: \_\_\_\_\_ Circle: metal / nonmetal / metalloid

Observations \_\_\_\_\_

- a. Determine the natural abundance of this element's more massive isotope. \_\_\_\_\_
- b. Calculate the atomic mass of this element using the data given.

c. Write the symbol for each isotope of this element: \_\_\_\_\_ and \_\_\_\_\_

d. How many protons are in each isotope of this element? \_\_\_\_\_ and \_\_\_\_\_

e. How many neutrons are in each isotope of this element? \_\_\_\_\_ and \_\_\_\_\_

#2 Element: \_\_\_\_\_ Circle: metal / nonmetal / metalloid

Observations \_\_\_\_\_

- a. One of the isotopes of this element has two more neutrons than protons. Write the symbol for this isotope. \_\_\_\_\_
- b. Write the symbol for the most common isotope of this element. \_\_\_\_\_

#3 Element: \_\_\_\_\_ Circle: metal / nonmetal / metalloid

Observations \_\_\_\_\_

- a. Write the symbol for each isotope of this element: \_\_\_\_\_
- b. Which isotope of this element is more abundant? \_\_\_\_\_
- c. Explain how you figured out your answer to (b).

#4 Element: \_\_\_\_\_ Circle: metal / nonmetal / metalloid

Observations \_\_\_\_\_

- a. Calculate the atomic mass of this element.

#5 Element: \_\_\_\_\_ Circle: metal / nonmetal / metalloid

Observations \_\_\_\_\_

- a. One of the isotopes of this element has 67 neutrons. Write the symbol for that isotope. \_\_\_\_\_
- b. Is the one with 67 neutrons the most common isotope for this element? \_\_\_\_\_

#6 Element: \_\_\_\_\_ Circle: metal / nonmetal / metalloid

Observations \_\_\_\_\_

- a. How many electrons are in a molecule of this element, keeping in mind that the element is diatomic? \_\_\_\_\_

#7 Element: \_\_\_\_\_  
Circle: metal / nonmetal / metalloid  
Observations \_\_\_\_\_  
a. Write the symbol for the most common isotope of this element: \_\_\_\_\_  
b. Calculate the atomic mass of this element using the data given.

#8 Element: \_\_\_\_\_  
Circle: metal / nonmetal / metalloid  
Observations \_\_\_\_\_  
a. How many neutrons are in a typical atom of this element? \_\_\_\_\_

#9 Element: \_\_\_\_\_  
Circle: metal / nonmetal / metalloid  
Observations \_\_\_\_\_  
a. How many protons are in a molecule of this element, keeping in mind that it is diatomic? \_\_\_\_\_  
b. How many neutrons are in one atom of this element (the main isotope.)? \_\_\_\_\_

#10 Element: \_\_\_\_\_  
Circle: metal / nonmetal / metalloid  
Observations \_\_\_\_\_  
a. Write the symbol for the isotope of this element that has the largest mass \_\_\_\_\_  
b. Calculate the atomic mass of this element, based on the data given.

#11 Element: \_\_\_\_\_  
Circle: metal / nonmetal / metalloid  
Observations \_\_\_\_\_  
a. The most common isotope of this element has the same number of neutrons as protons. Write the symbol for the most common isotope. \_\_\_\_\_  
b. The isotope mentioned in (a) accounts for 79% of the atoms of this element. Two other isotopes account for the remaining 21%.  
Would you expect these two isotopes to be more or less massive than the isotope mentioned in (a)? \_\_\_\_\_  
(Given that either both have lower, or both have higher masses)  
c. Explain your answer to (b).. how did you know?

#12 Element: \_\_\_\_\_  
Circle: metal / nonmetal / metalloid  
Observations \_\_\_\_\_  
a. How many protons are in an atom of this element? \_\_\_\_\_  
b. Which subatomic particle(s) is/are found in the nucleus of the atom?  
Circle the answer(s):        protons        neutrons        electrons  
c. Based on your answer to part (b), What is the CHARGE on the nucleus in an atom of this element?  
(For example, -8, or +17) \_\_\_\_\_  
d. If the nucleus has a charge, how is it possible that the overall atom is neutral? Explain, using this element as an example.