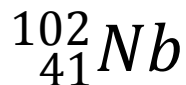


All work must be shown to receive credit.

1. (6 points) An unknown element contains 33 protons, 36 electrons, and has a mass number of 75. Answer the following questions.
  - a. What is the atomic number of this element?
  
  
  - b. What is the name of this element?
  
  
  - c. How many neutrons does this element contain?
  
2. (6 points) In what ways are isotopes alike?

In what ways are they different?

3. (2 points) Given the following elemental symbol for an element, identify the atomic number and the mass number of the element.



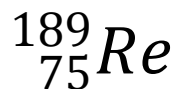
4. (6 points) Describe what Rutherford saw when he bombarded a piece of gold foil with alpha particles. What conclusions did Rutherford draw from his observations?

All work must be shown to receive credit.

1. (6 points) An unknown element contains 27 protons, 25 electrons, and has a mass number of 53. Answer the following questions.
  - a. What is the atomic number of this element?
  
  
  - b. What is the name of this element?
  
  
  - c. How many neutrons does this element contain?
  
2. (6 points) In what ways are isotopes alike?

In what ways are they different?

3. (2 points) Given the following elemental symbol for an element, identify the atomic number and the mass number of the element.



4. (6 points) Describe what Rutherford saw when he bombarded a piece of gold foil with alpha particles. What conclusions did Rutherford draw from his observations?
- 5.