Skill Practice 13

Atomic Structure

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hour: \_\_\_\_\_

1. An atom has a mass number of 43 and it also has 21 electrons.
   1. How many protons does this atom have?
   2. What is the identity of this atom?
   3. How many neutrons does this atom have?
2. What is an isotope? Give an example.
3. A certain *ion* has an atomic number of 16, a mass number of 33, and 18 electrons.
   1. What is the charge on the ion?
   2. What is the identity of this ion?
   3. How many neutrons does the nucleus of this ion have?
4. Tritium (an isotope of hydrogen) has 2 neutrons. How many protons does it have? What is its mass number?
5. What is the charge on a magnesium ion that has 10 electrons?
6. How many neutrons are there in a chromium atom with a mass number of 54?
7. Substance E has 29 protons, 28 electrons, and 34 neutrons. Substance F has 29 protons, 27 electrons, and 34 neutrons. Substances E and F can be categorized as…

A) different elements B) ions C) isotopes D) nuclides E) nucleons

1. The element with 38 protons and 45 neutrons could correctly be identified as which element?
2. Complete the following table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Symbol | # of neutrons | # of protons | # of electrons | Atomic # | Mass # |
|  |  |  |  |  |  |
|  |  | 25 | 25 |  | 56 |
|  | 120 |  | 79 | 79 |  |
|  | 21 | 20 | 18 |  |  |