

## Skill Practice 13

## Atomic Structure

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

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

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

- An atom has a mass number of 43 and it also has 21 electrons.
  - How many protons does this atom have?
  - What is the identity of this atom?
  - How many neutrons does this atom have?
- What is an isotope? Give an example.
- A certain *ion* has an atomic number of 16, a mass number of 33, and 18 electrons.
  - What is the charge on the ion?
  - What is the identity of this ion?
  - How many neutrons does the nucleus of this ion have?
- Tritium (an isotope of hydrogen) has 2 neutrons. How many protons does it have? What is its mass number?
- What is the charge on a magnesium ion that has 10 electrons?
- How many neutrons are there in a chromium atom with a mass number of 54?
- 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
- The element with 38 protons and 45 neutrons could correctly be identified as which element?
- Complete the following table:

Symbol	# of neutrons	# of protons	# of electrons	Atomic #	Mass #
$^{136}_{56}\text{Ba}^{+2}$					
		25	25		56
	120		79	79	
	21	20	18		

## Skill Practice 13

## Atomic Structure

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

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

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

- An atom has a mass number of 43 and it also has 21 electrons.
  - How many protons does this atom have?  
21
  - What is the identity of this atom?  
Scandium (Sc)
  - How many neutrons does this atom have?  
22
- What is an isotope? Give an example.  
Atoms of the same element (having the same number of protons) with different number of neutrons.
- A certain *ion* has an atomic number of 16, a mass number of 33, and 18 electrons.
  - What is the charge on the ion?  
-2
  - What is the identity of this ion?  
sulfur
  - How many neutrons does the nucleus of this ion have?  
17
- Tritium (an isotope of hydrogen) has 2 neutrons. How many protons does it have? What is its mass number?  
1; 3
- What is the charge on a magnesium ion that has 10 electrons?  
+2
- How many neutrons are there in a chromium atom with a mass number of 54?  
30
- 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
- The element with 38 protons and 45 neutrons could correctly be identified as which element?  
Strontium (Sr)

9. Complete the following table:

Symbol	# of neutrons	# of protons	# of electrons	Atomic #	Mass #
$^{136}_{56}\text{Ba}^{+2}$	80	56	54	56	136
$^{56}_{25}\text{Mn}$	31	25	25	25	56
$^{199}_{79}\text{Au}$	120	79	79	79	199
$^{41}_{20}\text{Ca}^{+2}$	21	20	18	20	41