

Atomic Structure Practice **Key**

1. Give the number of protons, electrons, and neutrons in each of the following atoms.
  - a. 47 p, 47 e, 61 n
  - b. 20 p, 20 e, 20 n
  - c. 11 p, 11 e, 12 n
  
2. Name each isotope and write it in isotopic notation:
  - a. Atomic # 26; mass number 56  $^{56}_{26}\text{Fe}$
  - b. Atomic # 29; mass number 64  $^{64}_{29}\text{Cu}$
  - c. Atomic #17; mass number 37  $^{37}_{17}\text{Cl}$
  
3. How many protons, electrons, and neutrons are in each of the following isotopes?
  - a. Uranium-235 92 p, 92 e, 143 n
  - b. Hydrogen-3 1 p, 1 e, 2 n
  - c. Silicon-29 14 p, 14 e, 15 n
  
4. How many neutrons does europium-151 have? 88
  - a. What is this isotope's mass number? 151
  
5. How many more neutrons does thorium-230 have than protons? 140 n – 90 e = 50
  - a. How many electrons does thorium-230 have? 90
  
6. Give the mass number of each isotope.
  - a. Be with 5 neutrons 9
  - b. Ga with 39 neutrons 70
  - c. Si with 16 neutrons 30
  - d. Ti with 26 neutrons 48
  
7. Give the atomic number of each isotope.
  - a. Magnesium-25 12
  - b. Bromine-79 35
  - c. Antimony-121 51
  
8. Neon has two isotopes: Neon-20 and Neon -22
  - a. Which isotope has the greater mass? Ne-22
  - b. Which has more neutrons? Ne-22
  - c. Which has more protons? neither
  - d. Which has more electrons? neither
  
9. Complete the following chart.

Element	Atomic #	# protons	# neutrons	# electrons
Li	3	3	4	3
Fr	87	87	136	87
Np	93	93	144	93
Hg	80	80	121	80
Tl	81	81	123	81
Re	75	75	111	75
B	5	5	6	5