

Use with textbook pages 289–293.

Isotopes

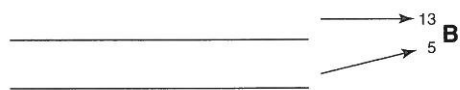
1. What is an isotope?

2. Atomic number + number of neutrons = _____

3. Number of protons + number of neutrons = _____

4. Mass number – atomic number = _____

Use the following standard atomic notation of an isotope to answer questions 5 to 7.



5. Label the mass number and the atomic number.

6. What is the name of this isotope? _____

7. Determine the number of subatomic particles for this isotope:

(a) number of protons = _____

(b) number of electrons = _____

(c) number of neutrons = _____

8. In each of the following cases, what element does the symbol X represent and how many neutrons are in the nucleus?

(a) ${}_{10}^{21}\text{X}$

Element = _____

Number of neutrons = _____

(b) ${}_{16}^{32}\text{X}$

Element = _____

Number of neutrons = _____

(c) ${}_{89}^{230}\text{X}$

Element = _____

Number of neutrons = _____

(d) ${}_{90}^{234}\text{X}$

Element = _____

Number of neutrons = _____

9. Complete the following table. The first row has been completed to help guide you.

Isotope	Standard atomic notation	Atomic number	Mass number	Number of protons	Number of neutrons
carbon-14	$^{14}_6\text{C}$	6	14	6	8
		27	52		
nickel-60					
			14	7	
thallium-201					
	$^{226}_{88}\text{Ra}$				
				82	126