

QUESTION

Calcium plays several critical roles in the functioning of human cells. However, this form of calcium is the ion made with 20 protons and 18 electrons. Therefore the ion would be...

- A. positive and called an anion.
- B. positive and called a cation.
- C. negative and called an anion.
- D. negative and called a cation.

Answer

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An atom of calcium (20 protons = 20+) which has lost two electrons (now with 18–). The ion would have a +2 charge. Positive ions are called cations.

QUESTION

Of the following, which would NOT qualify as an isotope of 35Cl?

A. ³⁶Cl

- B. ³⁵Cl⁻ C. ³⁷Cl⁻
- D. 37Cl

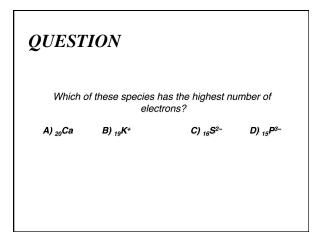
Answer

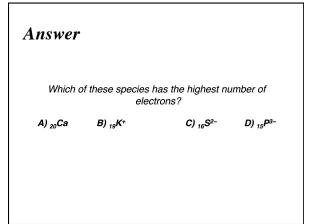
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B. has the same number of neutrons as the atom in the question, therefore it does not fit the criteria for isotopes (i.e. different number of neutrons with the same proton number). Isotopes can be ions as well as neutral atoms. ³⁷Cl- and ³⁷Cl are also not a pair of isotopes.

Nuclear Symbol	Number of Protons	Number of Neutrons	Number of Electrons	Atomic Number (Z)	Mass Number (A
¹² ₆ C	6	6	6	6	12
¹⁴ 7 N			7		
	7	8	7		
			18	20	40
17O ²⁻				8	
⁵⁶ Fe			26		
¹⁹ F-				9	





QUESTION

The ion ⁴⁵Sc³⁺ has

A) 24 electrons, 21 protons and 24 neutrons
B) 18 electrons, 21 protons and 24 neutrons
C) 24 electrons, 24 protons and 21 neutrons

D) 18 electrons, 24 protons and 21 neutrons

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Some Common Monatomic lons of the Elements 7A 8A (17) (18) 1A (1) 3A 4A 5A 6A H⁻ (13) (14) (15) (16) H⁻ N³⁻ O²⁻ F⁻ F⁻ H+ 2A (2) **U*** AI 3+ S²⁻ CI- 3B 4B 5B 6B 7B (3) (4) (5) (6) (7) (8) (10) 1B 2B (11) (12) Mg² Cu⁺ Cu²⁺ Zn² poined 4 Brк+ Ca² Cr²⁺ Mn²⁺ Fe²⁺ Cr³⁺ Mn³⁺ Fe³⁺ Ag⁺ Cd²⁺ r Rb+ Sr² Hg₂²⁴ Hg²⁺ Cs+ Ba