



IDENTIFY THE PARTICLE

In each case identify the particle.

- An atom with 6 protons and the same number of neutrons as a ^{14}N atom $^{13}_6\text{C}$
- An atom with one more proton and the same number of neutrons than an atom of ^{39}K $^{40}_{20}\text{Ca}$
- An atom with 10 protons and the same number of neutrons as an atom of ^{24}Mg $^{22}_{10}\text{Ne}$
- An atom with one fewer proton and the same number of neutrons as an atom of ^{66}Zn $^{65}_{29}\text{Cu}$
- An atom with the same number of protons and two more neutrons as an atom of ^{79}Br $^{81}_{35}\text{Br}$
- An atom with two fewer protons and the same number of neutrons as an atom of ^{50}Cr $^{48}_{22}\text{Ti}$
- An ion with one more proton and two more neutrons as an atom of ^{20}Ne but the same number of electrons $^{23}_{11}\text{Na}^+$
- An ion with two fewer protons and two fewer neutrons as an atom of ^{40}Ar but the same number of electrons $^{36}_{16}\text{S}^{2-}$
- An ion with two more protons and two more neutrons as an atom of ^{60}Ni but the same number of electrons $^{64}_{30}\text{Zn}^{2+}$
- An ion with two more protons and three more neutrons as an atom of ^{20}Ne but the same number of electrons $^{25}_{12}\text{Mg}^{2+}$
- An ion with one fewer proton, one fewer neutron and the same number of electrons as an atom of $^{129}_{54}\text{Xe}$ $^{127}_{53}\text{I}^-$
- An ion with one more proton, two more neutrons, but the same number of electrons as an ion of $^{85}\text{Rb}^+$ $^{88}_{38}\text{Sr}^{2+}$
- A particle with two fewer protons, two fewer neutrons and the same number of electrons as an atom of ^{20}Ne $^{16}_8\text{O}^{2-}$
- A particle with one fewer proton, two fewer neutrons and one more electron as a $^{48}_{22}\text{Ti}^{2+}$ ion $^{45}_{21}\text{Sc}$
- A particle with one fewer proton, two more neutrons and the same number of electrons as a $^{127}_{53}\text{I}^-$ ion $^{128}_{52}\text{Te}^{2-}$