

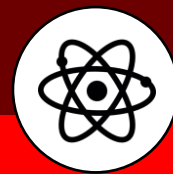
Atomic Structure

2013

14 Which one of the following pairs do **not** have the same electronic structure?

										H											He
Li	Be											B	C	N	O	F	Ne				
Na	Mg											Al	Si	P	S	Cl	Ar				
K	Ca																				

- A MgCl_2 and three atoms of argon
- B CO and N_2
- C CH_4 and NH_4^+
- D NO_3^- and CO_3^{2-}
- E NaF and two atoms of Ne



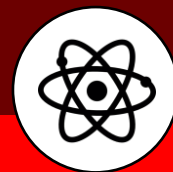
Atomic Structure

 2015

22 Which of the following have the same electron arrangement?



- A ${}_{19}^{39}\text{K}^{+}$, ${}_{19}^{41}\text{K}^{-}$ and ${}_{18}^{40}\text{Ar}$ only
- B ${}_{17}^{35}\text{Cl}^{-}$, ${}_{17}^{36}\text{Cl}^{+}$ and ${}_{20}^{40}\text{Ca}^{+}$ only
- C ${}_{17}^{35}\text{Cl}^{-}$, ${}_{18}^{40}\text{Ar}$ and ${}_{19}^{39}\text{K}^{+}$ only
- D ${}_{17}^{36}\text{Cl}^{+}$, ${}_{18}^{40}\text{Ar}$ and ${}_{19}^{41}\text{K}^{-}$ only
- E ${}_{20}^{40}\text{Ca}^{+}$, ${}_{18}^{40}\text{Ar}$ and ${}_{19}^{41}\text{K}^{-}$ only



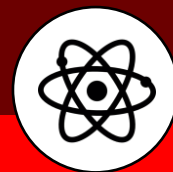
Atomic Structure

2016

- 2 Element X has the electronic structure 2, 8, 3.

Which of the following statements about this element are correct?

- 1 The element is in Group 12, Period 3 of the Periodic Table.
 - 2 The element reacts with oxygen to form a compound with the formula X_2O_3 .
 - 3 The element reacts with bromine to form a compound with the formula XBr_3 .
 - 4 The atomic number of the element is 13.
 - 5 The element is an alkali metal.
- A 1 and 5 only
- B 2 and 3 only
- C 2 and 5 only
- D 3 and 4 only
- E 1, 4 and 5 only
- F 2, 3 and 4 only

**Atomic Structure**

- 7 Nickel has an atomic number of 28. The mass numbers of four of its isotopes are 58, 60, 61 and 62.

Below are three statements about these isotopes of nickel.

- 1 All of them have the same chemical properties.
- 2 All of them have nuclei containing 28 protons.
- 3 One of them has a nucleus that contains 62 neutrons.

Which statement(s) is/are correct?

- A 1 only
- B 2 only
- C 3 only
- D 1 and 2 only
- E 1 and 3 only
- F 2 and 3 only
- G 1, 2 and 3
- H none of them