

Full Name:

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0.1 The atomic number of an atom is equal to the number of:
(a) nuclei (b) neutrons (c) neutrons plus protons (d) electrons plus
protons (e) electrons

0.2 In an atom, the nucleus contains: (a) an equal number of
protons and electrons. (b) all the protons and neutrons (c) all the
protons and electrons (d) only neutrons (e) only protons

0.3 The mass number of an atom is equal to the number of:
(a) electrons (b) neutrons (c) neutrons plus protons (d) protons

0.4 The mass number of an atom is equal to the number of: (a) nu-
clei (b) neutrons (c) neutrons plus protons (d) electrons plus protons
(e) electrons

0.5 Consider a neutral atom with 30 protons and 34 neutrons. The
mass number of the element is: (a) 30 (b) 32 (c) 34 (d) 64 (e) 94

0.6 Consider a neutral atom with 30 protons and 34 neutrons. The
atomic number of the element is: (a) 30 (b) 32 (c) 34 (d) 64 (e) 94

0.7 The atomic symbol for aluminum is: (a) Al (b) Am (c) A
(d) Sn (e) Ag

0.8 Select from below the atomic symbol for the element Gold is:
(a) Go (b) Au (c) G (d) Ca (e) Ol

0.9 Ca is the symbol for: (a) Carbon (b) Calcium (c) Cobalt (d) Copper (e) Cadmium

0.10 The atomic symbol for iron is: (a) Ir (b) Fs (c) Fe (d) In (e) Ir

0.11 From the following scientist, J.J. Thomson, Robert Millikan, Henri Becquerel, and Ernest Rutherford, indicate who: (a) Worked with cathodic rays (b) Calculate the charge-to-mass ratio of the electron (c) Worked with oil drops to calculate the electric charge of the electron

0.12 From the following scientist, J.J. Thomson, Robert Millikan, Henri Becquerel, and Ernest Rutherford, indicate who: (a) Discovered the element Uranium in a mineral (b) Scattered atoms on helium on a gold thin layer (c) Unsuccessfully validated the plum pudding model

0.13 Which of the following elements is an alkali metal? (a) Nitrogen (b) Lithium (c) Calcium (d) Iron (e) Ruthenium

0.14 Which of the following elements is a metal? (a) Nitrogen (b) Lithium (c) Calcium (d) Iron (e) Iodine

0.15 Which of the following elements is a nonmetal? (a) Nitrogen (b) Lithium (c) Calcium (d) Iron (e) Iodine

0.16 Which of the following elements is an alkaline earth metal? (a) Nitrogen (b) Lithium (c) Calcium (d) Iron (e) Ruthenium

0.17 What is the symbol of the element in Period 4 and Group 2?
(a) Be (b) Mg (c) Ca (d) C (e) Si

0.18 Which of the following elements is a halogen? (a) Nitrogen
(b) Lithium (c) Calcium (d) Iron (e) Iodine

0.19 What is the empirical formula and the molecular formula of a compound if a sample contains 3 g of C, 0.5 H and 4 g of oxygen?
MW=60amu

0.20 What is the empirical formula of a compound if a sample of this compound contains 2.8 g of nitrogen and 3.2 g of oxygen?

0.21 A 1.587 g sample of a compound containing N and O was analyzed finding a composition of 0.483 g of Nitrogen and 1.104 g of Oxygen. Calculate the empirical formula of the compound.

0.22 What is the empirical and molecular formula of a compound with a percent composition of 49.47% C, 5.201% H, 28.84% N, and 16.48% O, if its molecular mass is 194.2 amu.

0.23 Magnesium contains three different isotopes: magnesium-24 with an abundance of 79% and a mass of 23.9850423 amu, magnesium-25 with an abundance of 10% and a mass of 24.9858374 amu, and magnesium-26 with a mass of 25.9825937 amu. Calculate the abundance of magnesium-26 and the average atomic mass of a sample of magnesium.

0.24 The atomic mass of Ga is 69.72 amu. There are only two naturally occurring isotopes of gallium: ^{69}Ga , with a mass of 69.0 amu, and ^{71}Ga , with a mass of 71.0 amu. Calculate the natural abundance of the ^{69}Ga isotope.

0.25 Calculate the molecular mass of the following compound:
 C_4H_{10}

0.26 Calculate the molecular mass of the following compound:
 CCl_2F_2

0.27 Calculate the molecular mass of the following compound:
 C_6H_6

0.28 Calculate the molecular mass of the following compound:
 $\text{C}_6\text{H}_{10}\text{O}_8$