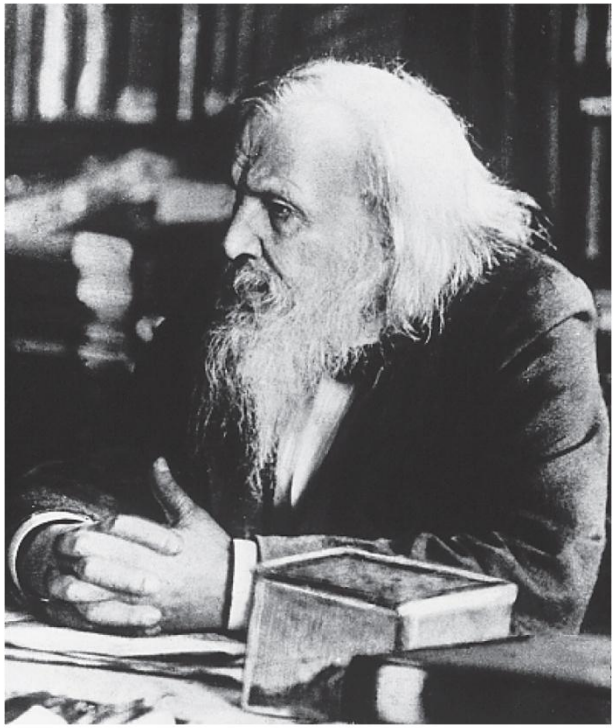
Mock Exam
for Quiz 2
2nd Term 2017 – 1438

1- Mendeleev arranged the elements in his early *periodic table* primarily according to what criterion?

A) Similar physical properties
B) Similar chemical properties
C) Decreasing atomic masses
D) Similar appearance



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2- Which of the following is **incorrect** about nonmetals?

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b) They are found at the right-hand side of the periodic table.

c) They are good conductors of electricity.

d) Some are colorful.

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3) Chromium is an example of an element that is a _____.

A) transition element
B) nonmetal
C) metalloid
D) noble gas

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4- Which of the following determines the identity of an atom?

A) Number of protons

B) Number of electrons

C) Number of neutrons

D) Total number of protons and neutrons

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5- Which of the following elements is an alkali earth metal?

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6- Which of the following correctly illustrates the valence electron configuration of sulfur?

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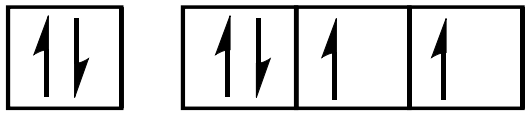

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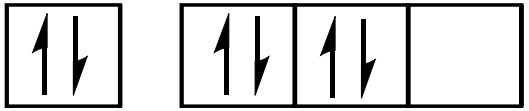
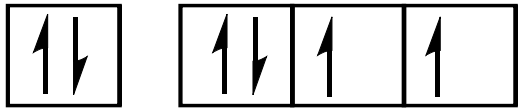
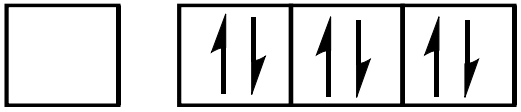


c)



d)



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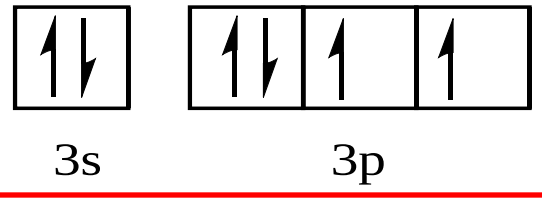

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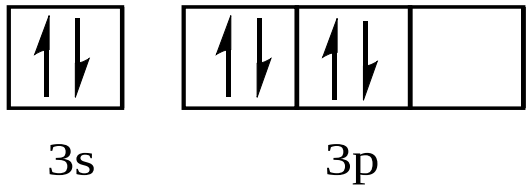

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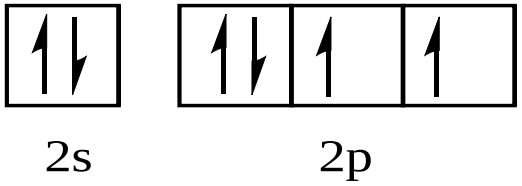

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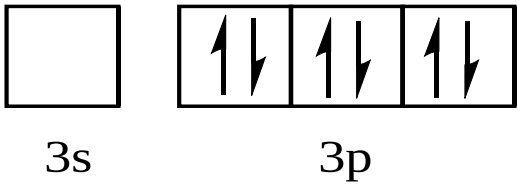
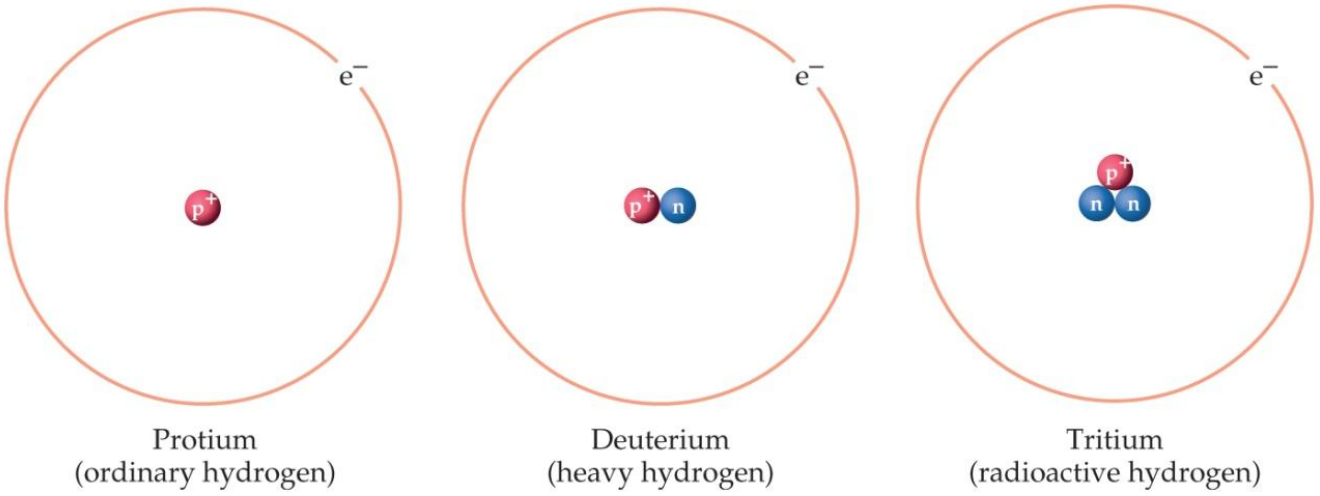


7- *Isotopes* are elements that differ only in their ___.



A) atomic number

B) nuclear charge

C) number of electrons in the neutral atom

D)mass number

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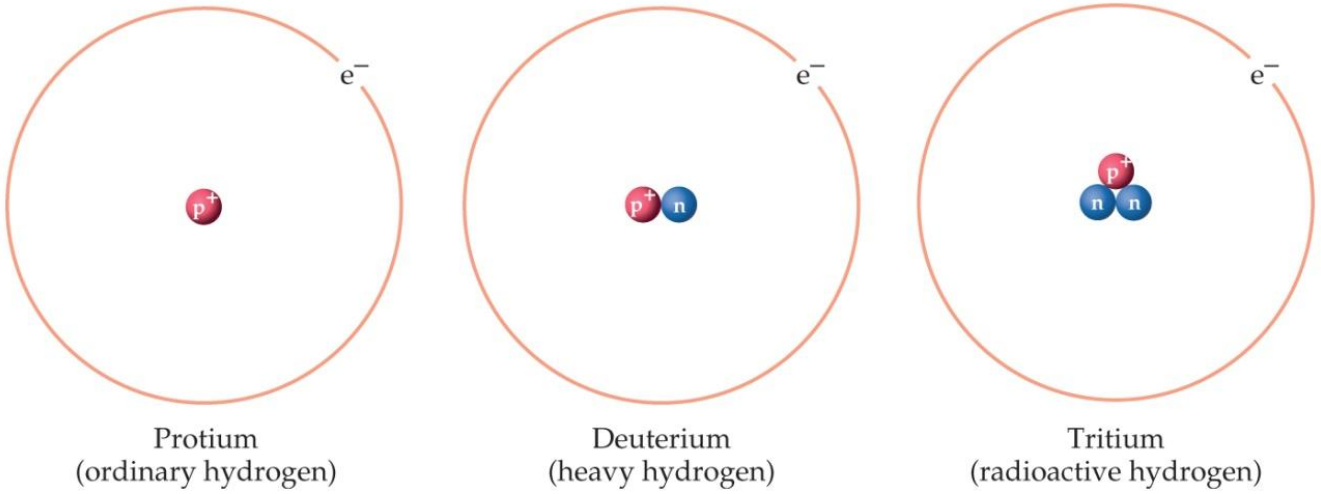

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8- How many valence electrons does chlorine have?

a) 8
b) 7
c) 6
d) 5

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9- In a chemical bond, the polarity of it can be specified by:

A	electron affinity
B	electronegativity
C	ionization energy
D	metallic character

10- Group 2A in periodic table in their compounds always have an oxidation state of:

A	**+2**
B	**-2**
C	0
D	+1

11- The resulting bond due to transfer of electron is:

A	covalent
B	polar covalent
C	ionic
D	metallic

12- The resulting bond due to unequal sharing of electron is:

A	covalent
B	polar covalent
C	ionic
D	metallic

13- Substance that produces H^+ ion is called

A	Acid
B	Base
C	Solution
D	antacid

14- Substance that produces OH^- ion is called

A	Acid
B	Base
C	Solution
D	antacid

15- A proton that associates with water has a form:

A	**H^+**
B	**OH^-**
C	H_3O^+
D	H_3O^-

16- 105 g of $MgCl_2$ contains _____ mol $MgCl_2$.

A	105
B	6.62×10^{23}
C	1.10
D	1.76

17- The number of grams in 7.00 moles of N_2 is _____.

A	**14**
B	**28**
C	98
D	196

18- Which of the following is the strongest acid?

A	**NH_4^+**
B	**NaOH**
C	H_2CO_3
D	HCl

19- Acetic acid (Vinegar) can be classified as a(n) _____.

A	Solid
B	**weak electrolyte**
C	Strong electrolyte
D	Ionic compound

20- Hydrobromic acid (HBr) can be classified as a(n) _____.

A	**Solid**
B	**weak electrolyte**
C	Strong electrolyte
D	Ionic compound

21- Aqueous solution of NaCl can be classified as a(n) _____.

A	**Non-electrolyte**
B	**weak electrolyte**
C	Strong electrolyte
D	molecular compound

22- What is the mass, in grams, of 2.5 moles of ammonia (NH_3)?

A) 25.0 g

B) 42.5 g

C) 46.0 g

D) 77.5 g

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1 mole NH_3 = 17.0 g (14.0 g N + 3.0 g H)

2.5 moles NH_3 × 17.0 g/mole NH_3 = 42.5 g

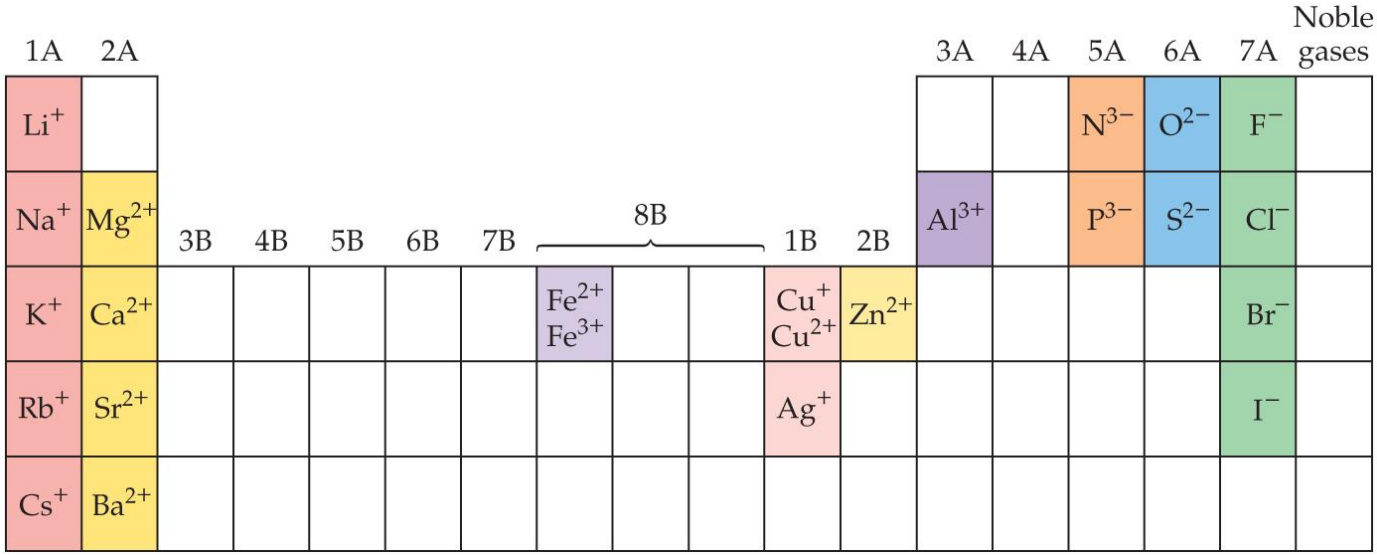
23- The correct formula for the ionic compound formed from the elements potassium and oxygen is _____.

A) KO

B) K_2O

C) KO_2

D) K_2O_3



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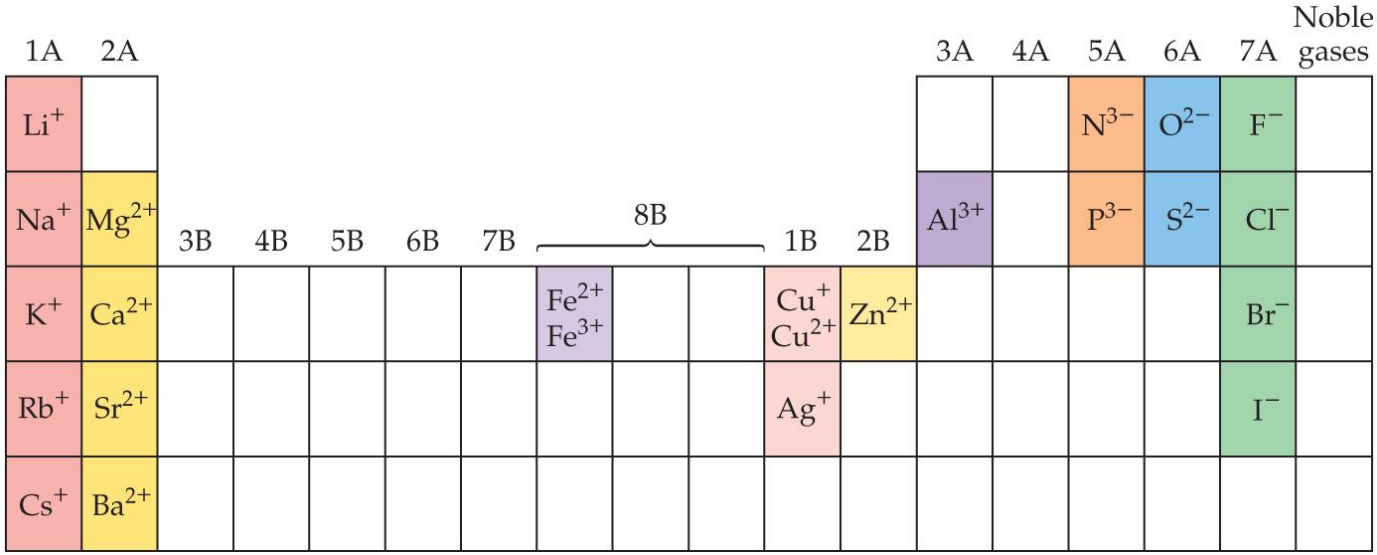

24- What is the correct name for this compound?

A) Copper chloride
B) Copper(I) chloride
C) Copper(II) chloride
D) Copper monochloride

CuCl

Name?

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25- When the following equation is properly balanced, what is the coefficient of O_2?

$$\_\_\_\ C_5H_{12} + \_\_\_\ O_2 \rightarrow \_\_\_\ CO_2 + \_\_\_\ H_2O$$

A) 6

B) 8

C) 9

D) 10

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26- Consider the combustion of propane as represented in this chemical equation.

$$C_3H_8 + 5\ O_2 \rightarrow 3\ CO_2 + 4\ H_2O$$

When 7.5 moles of O_2 are consumed, how many moles of CO_2 are formed?

A) 3 moles of CO_2

B) 4 moles of CO_2

C) 4.5 moles of CO_2

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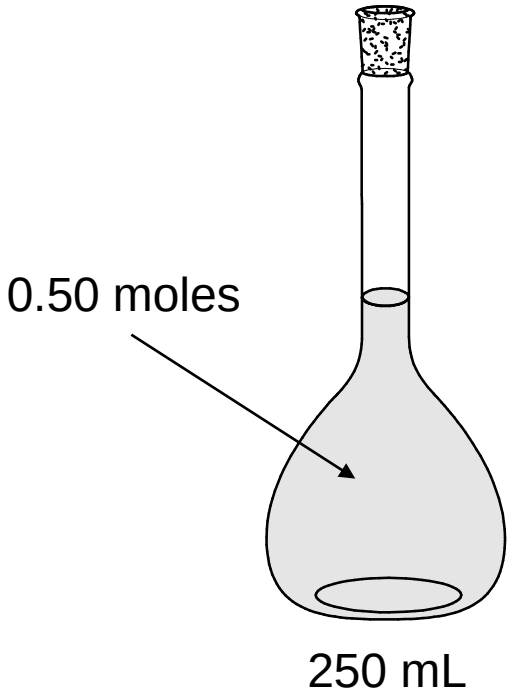
27- What is the molarity of solution prepared by dissolving 0.50 moles of solute in 250 mL of solution?

A) 0.5 M

B) 0.75 M

C) 1.5 M

D) 2.0 M



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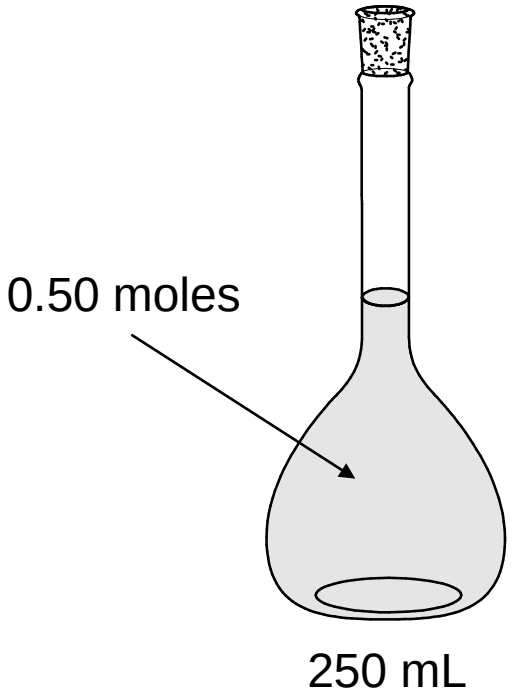

M = moles/L = 0.50 moles/0.250 L = 2.0 M

28- For the following reaction

$$4Al\ (s) + 3\ O_2\ (g) \rightarrow 2\ Al_2O_3\ (s)$$

the theoretical yield of Al_2O_3 is 3.5 g.

In a particular experiment the actual product was 1.75 g of Al_2O_3.

Then the % yield is _____.

A)75

B)50

C)100

D)25

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29- Iron rusts according to the equation below: Iron is _____.

A) the reducing agent
B) the oxidizing oxidized
C) the element reduced
D) neither oxidized nor reduced

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30- In the final product of the corrosion of iron-based metals—$Fe(OH)_3$, or rust—what is the oxidation state of the Fe?

A) 0
B) +1
C) +2
D) +3

$$4\ Fe + 6\ H_2O + 3\ O_2 \rightarrow 4\ Fe(OH)_3$$

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Iron(III) hydroxide