1	4 pc	pints		
		plete the sentence regarding the energy levels of an electron in the hydrogen atom. e principal quantum number increases,		
	0	the energy levels remain degenerate		
	0	the spacing between successive energy levels remains constant		
	0	the spacing between successive energy levels increases		
	0	the spacing between successive energy levels decreases		
2	4 pc	pints		
	Whic	h of these atoms have unpaired electrons?		
		oxygen		
		neon		
		nitrogen		
		magnesium		
3	4 pc	pints		
	How	many total electrons are in the oxide anion?		
	0	4		
	0	6		
	0	12		
	0	10		
	0	8		
4	4 pc	bints		
		netal Ca and the nonmetal Br form an ionic bond. What is the formula for this ionic pound?		
	0	CaBr ₂		
	0	Ca ₂ Br ₃		
	0	CaBr		
	0	Ca ₂ Br		
	0	Ca ₃ Br ₂		
5	4 n/	sints		
	4 points Strontium (Sr) and chlorine (Cl) come together to make a bond. What type of compound is formed and what is its formula?			
	0	Covalent, Sr_2Cl_2		
	\bigcirc	Ionic, SrCl		
	Ō	Ionic, SrCl ₂		

O Covalent, SrCl₂

6 4 points

An example of iron oxidizing to form rust involves oxide forming an ionic compound with iron(III). What is the formula of this ionic compound?

- O Fe₃O₂
- O Fe₂O₃
- **FeO**₃
- O Fe₂O₄
- O FeO

7 4 points

Cobalt(II) forms an ionic compound with hydroxide. What is the formula for this compound?

- O Co(OH)₂
- O OH₂Co
- Co(OH)₃
- O CoOH

8 4 points

What is the formula for magnesium phosphate?

- $O \qquad Mg_3(PO_3)_2$
- O Mg(PO₄)₂
- O Mg₃(PO₄)₂
- O Mg₃PO₄
- O MgPO₄

9 4 points

What is the formula for sodium phosphite?

- \bigcirc Na₂PO₃
- NaPO₃
- O Na₃PO₄
- O Na(PO₃)₃
- O Na₃PO₃

10 3 points

What is the name of Na_2S ?

- O sodium sulfate
- O sodious sulfous
- o sodium sulfide
- O disodium sulfide
- O disodium sulfurous
- o sodium sulfite

11 4 points

Compared to a nonmetal in the same period, a metal is more likely to _____ its valence shell and form a _____.

- O fill, cation
- O empty, anion
- O empty, cation
- fill, anion

12 4 points

Select the ionic compound with the strongest theoretical ionic bond strength.

- 🔘 Nal
- O KF
- 🔿 NaF
- О ксі

13 4 points

Select the ionic compound with the highest theoretical lattice energy.

- O MgCl₂
- Cal₂
- O Mgl₂
- \bigcirc CaBr₂
- 14 3 points

A stronger ionic bond is typically associated with the ions having...

- select all that apply
 - larger ionic radii



- larger charges
 - smaller ionic radii
- 15 4 points

The range of atomic radii for small to large atoms is approximately...

- O .5 to 300 Å
- O 1 to 1000 Å
- O 50 to 300 Å
- O .5 to 3 Å
- O 40 to 5000 Å

16 4 points

Which of the following best ranks the neutral elements P, Ge, and O from smallest to largest atomic radius?

- O < Ge < P
- **O** Ge < P < O
- **O** Ge < O < P
- P < O < Ge</p>
- O < P < Ge

17 4 points

The smallest atomic radius in a particular period will be the...

- alkaline earth metal
-) halogen
- noble gas
- O alkali metal

18 4 points

Which of the following species is most likely to lose an electron to form a cation?

- O Carbon
- O Oxygen
- O Sodium
- O Fluorine

19 4 points

Which of the following is expected to have the highest electronegativity?

- O Magnesium
- O Sodium
- O Chlorine
- O Carbon

20 4 points

Hydrofluoric acid, HF, makes a polar covalent bond. Which of the following best describes the bond?

- O There is an unequal sharing of electrons, resulting in a partial negative and partial positive
- O There is an equal sharing of electrons, resulting in completely neutral charges on each atom
- O There is an equal sharing of electrons, resulting in a partial negative and partial positive
- O There is an unequal sharing of electrons, resulting in completely neutral charges on each atom

21 4 points

A bond between two nonmetals involves the sharing of electrons. However, one of the atoms has a higher electron affinity, meaning it attracts the electrons in the bond more than the other atom. What type of bond is this?

\bigcirc	D	C	I 4
\mathbf{O}	Pure	Cova	lent

- O Polar covalent
- $\overline{}$
- O Ionic
- O Metallic

22 6 points

Select all the covalent compounds below:

- Br₂
- CH₄
- CO₂
- CaO
- _____ ___ H₂O
- NH₃
- LiBr

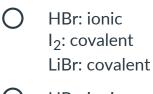
23 4 points

Select all the compounds below that have ionic bonds.

NaCl
HBr
MgCl ₂
LiBr
CH ₃ OH
H ₂ O
FeCl ₃

24 4 points

Which type of bond is found in each of the following compounds? HBr I₂ LiBr



- HBr: ionic
 I₂: covalent
 LiBr: ionic
- HBr: covalent
 I₂: covalent
 LiBr: ionic

O HBr: covalent I₂: ionic LiBr: covalent

25 4 points

What are the bonds in the following molecules? HCI Br_2 KCI HCI: covalent Ο Br₂: covalent KCI: ionic HCI: ionic Br₂: ionic KCI: covalent HCI: ionic ()Br₂: covalent KCI: covalent HCI: ionic \bigcirc Br₂: covalent KCI: ionic