When aluminum and sulfur react, which compound is produced?

A Al2S3

B Al3S2

C AlS2

D AlS

Which combination of elements would ***most likely*** form an ionic compound?

A hydrogen and oxygen

B carbon and chlorine

C sodium and fluorine

D silicon and sulfur

Which represents the formula for iron(III) chromate?

A Fe2(CrO4)3

B Fe2(CrO4)2

C Fe3(CrO4)2

D Fe3(CrO4)3

What is the name for the chemical formula PbO2?

A lead oxide

B lead(II) oxide

C lead(IV) oxide

D lead dioxide

Which is true about the melting points of ionic and molecular compounds?

A The melting points of ionic and molecular compounds are similar.

B The melting points of ionic compounds are lower than the melting points of

molecular compounds.

C The melting points of ionic and molecular compounds increase with the

number of atoms present in the compound.

D The melting points of ionic compounds are higher than the melting points of molecular compounds.

Which pair of elements is both malleable and able to conduct heat?

A bromine and silver

B iodine and neon

C iron and bromine

D silver and iron

Which group includes elements with the most similar properties?

A N, O, and F

B O, S, and Se

C Cr, Pb, and Xe

D Br, Ga, and Hg

An atom of which element has the strongest attraction for electrons?

A Ba

B Cs

C O

D F

The chemical equation below represents an unbalanced chemical reaction:

Fe  O2  Fe2O3

When the equation is balanced, what coefficient is needed for Fe2O3?

A 1

B 2

C 3

D 4

When AgNO3 (*aq*) is mixed with NaCl (*aq*), which type of reaction will occur?

A single replacement

B synthesis

C decomposition

D double replacement

Which ***best*** describes electrolytic and nonelectrolyte solutions?

A Electrolytic solutions produce ions in solution, while nonelectrolytes do not

produce ions in solution.

B Electrolytic solutions include alcohols and sugars, while nonelectrolytes

include acids and bases.

C Electrolytic solutions are not able to conduct electricity, while nonelectrolytes

are able to conduct electricity.

D Electrolytic solutions are composed of polar covalent substances, while

nonelectrolytes are composed of ionic compounds.

When salt (NaCl) is dissolving in water (H2O), what happens to the attraction

between the salt ions and the oxygen atoms of the water?

A The chlorine ion is attracted to the partial negative charge of the oxygen

atoms.

B The chlorine ion is attracted to the partial positive charge of the oxygen

atoms.

C The sodium ion is attracted to the partial negative charge of the oxygen

atoms.

D The sodium ion is attracted to the partial positive charge of the oxygen

atoms.

Which of the following statements **best** explains why potassium (K) reacts easily with bromine (Br)?

A. Potassium and bromine both have valence electrons in the fourth energy level.

B. Potassium and bromine have the same number of electrons in their highest energy levels.

C. Potassium has one electron in its highest energy level, and bromine needs one electron to complete its highest energy level.

D. Potassium needs one electron to complete its highest energy level, and bromine has an extra electronin its highest energy level.

Which of the following statements **best** explains why atoms bond?

A. Atoms bond to make new substances.

B. Atoms bond to become less chemically stable.

C. Atoms bond to change froma liquid to a solid.

D. Atoms bond to become more chemically stable.

When a sample of potassium chloride dissolves in water, it separates into potassium ions and chloride ions. Which of the following **best** accounts for the positive charge of the potassium ions?

A. They have extra mass.

B. They have a large volume.

C. They have fewer electrons than protons.

D. They have a high density of neutrons and protons.

Barium and iodine combine to form an ionic compound. What is the chemical formula for this compound?

A. BaI

B. BaI2

C. Ba2I

D. Ba2I2

Which of the following equations represents the law of conservation of mass?

A. H2O → H2 1 O2

B. 2H 1 2O → 2H2O

C. 2H2O → 2H2 1 O2

D. H2 1 O2 → H2O 1 H2O2

The graph below shows the solubility of various compounds.

At what temperature will 50 g of NH4Br produce a saturated solution when

dissolved in 100 g of water?

A 48°C

B 54°C

C 60°C

D 66°C