Before doing anything, fill in the following on your ParSCORE form:

1) Write your name
2) Bubble in FORM A
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Instructions: No hats or hoods allowed. No books or notes allowed. No sharing of calculators. Cell phones, iPods, headsets/headphones, and any other electronic devices must be turned off and put away.

There are a total of two pages (9 questions) on the quiz. Not every question is worth the same number of points—point values are indicated for each question. You may work out the problems and write your answers on this quiz; however, you must completely fill in the appropriate bubble(s) on your ParSCORE form. Turn in the ParSCORE form only. Keep the quiz so you can check your work and your answers. If you are concerned that you might make bubbling errors on your ParSCORE form, you may choose to turn in your quiz. The answers to the quiz will be posted on our course web page.

Questions 1-3. (1 pt each) Determine whether the following statements are correct or incorrect according to the chemical naming standards discussed in Zumdahl. Polyatomic ions are listed on the given Information sheet.

1. The correct formula for sodium sulfide is NaS
   a) correct  
   b) incorrect  
   c) more information is needed

2. The name of HIO₃ is hydroiodic acid
   a) correct  
   b) incorrect  
   c) more information is needed

3. The name of MnO₂ is manganese dioxide
   a) correct  
   b) incorrect  
   c) more information is needed

4. (2 pts) How many electrons and neutrons are there in $^{126}_{50}Sn^{2+}$
   a) 52 electrons, 76 neutrons  
   b) 48 electrons, 126 neutrons  
   c) 50 electrons, 74 neutrons  
   d) 48 electrons, 76 neutrons  
   e) none of these

5. (2 pts) What is the coefficient in front of NaCl when the following equation is balanced using lowest possible whole number stoichiometric coefficients?

   \[ \text{CaCl}_2 + \text{Na}_3\text{PO}_4 \rightarrow \text{Ca}_3(\text{PO}_4)_2 + \text{NaCl} \]

   a) 1  
   b) 2  
   c) 3  
   d) 6  
   e) 9
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Questions 1-3. (1 pt each) Determine whether the following statements are correct or incorrect according to the chemical naming standards discussed in Zumdahl. Polyatomic ions are listed on the given information sheet.

1. The correct formula for calcium hydroxide is Ca(OH)$_2$
   a) correct  b) incorrect  c) more information is needed

2. The name of aqueous HCN is cyanic acid
   a) correct  b) incorrect  c) more information is needed

3. The name of Ag$_2$O is silver (I) oxide
   a) correct  b) incorrect  c) more information is needed

4. (2 pts) Which of the following has the fewest neutrons?
   a) $^{126}_{55}$Sr$^{2+}$
   b) $^{127}_{53}$I$^-$
   c) $^{133}_{48}$Cd$^{2+}$
   d) $^{130}_{52}$Te
   e) More than of these has the fewest neutrons

5. (2 pts) What is the coefficient in front of H$_2$O when the following equation is balanced using lowest possible whole number stoichiometric coefficients?

   $\text{H}_2\text{O}_2 \rightarrow \text{H}_2\text{O} + \text{O}_2$

   a) 3
   b) 2
   c) 4
   d) 1
   e) 6
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There are a total of two pages (8 questions) on the quiz. Not every question is worth the same number of points—point values are indicated for each question. You may work out the problems and write your answers on this quiz; however, you must completely fill in the appropriate bubble(s) on your ParSCORE form. Turn in the ParSCORE form only. Keep the quiz so you can check your work and your answers. If you are concerned that you might make bubbling errors on your ParSCORE form, you may choose to turn in your quiz. The answers to the quiz will be posted on our course web page.

1. (2 pts) How many electrons are there in $^{166}_{74}W^{3+}$
   
   a) 74  
   b) 186  
   c) 77  
   d) 71  
   e) 183

2. (2 pts) According to the naming rules discussed in class, what is the correct name for HClO₂?
   
   a) Hydrochlorous acid  
   b) Hypochlorous acid  
   c) Chlorous acid  
   d) Chlorite acid  
   e) Chloric acid

3. (2 pts) What is the correct formula for chromium(III) carbonate?
   
   a) Cr₃CO₃  
   b) CrCO₃  
   c) Cr₂CO₃  
   d) Cr₃(CO₃)₂  
   e) Cr₂(CO₃)₃

4. (3 pts) Consider the following reaction: $4 \text{NH}_3 + 5 \text{O}_2 \rightarrow 4 \text{NO} + 6 \text{H}_2\text{O}$
   What will be the limiting reagent when 15 grams of NH₃ reacts with 33 grams of O₂?
   
   a) NH₃  
   b) O₂  
   c) NO  
   d) H₂O
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1. (2 pts) According to the naming rules discussed in class, what is the correct name for Fe₃N₂?
   a) Iron nitride
   b) Triiron dinitride
   c) Iron(III) nitride
   d) Iron(II) nitride
   e) Iron(II) dinitride

2. (2 pts) What is the correct formula for sodium peroxide?
   a) NaO₂
   b) NaO
   c) Na₂O
   d) Na₂O₂
   e) Na(O₂)₂

3. (2 pts) What is the molar mass of hydrobromic acid?
   a) 80.9 g/mol
   b) 96.9 g/mol
   c) 128.9 g/mol
   d) 288.7 g/mol
   e) 384.7 g/mol

4. (3 pts) Consider the following reaction: 3 NO₂ + H₂O → 2 HNO₃ + NO
   What will be the limiting reagent when 63 grams of NO₂ reacts with 20 grams of H₂O?
   a) NO₂
   b) H₂O
   c) HNO₃
   d) NO
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1. (3 pts) Based on the naming rules discussed in the textbook and in class, how many of the following compounds are incorrectly named?

<table>
<thead>
<tr>
<th>Formula</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBrO₃</td>
<td>hydrobromic acid</td>
</tr>
<tr>
<td>N₂S₄</td>
<td>nitrogen tetrathiode</td>
</tr>
<tr>
<td>Sn(CrO₄)₂</td>
<td>tin chromate</td>
</tr>
<tr>
<td>Ca(HCO₃)₂</td>
<td>calcium hydrogen carbonate</td>
</tr>
</tbody>
</table>

a) 0  b) 1  c) 2  d) 3  e) 4

2. (3 pts) Element X reacts with the nitrate ion to produce the compound X(NO₃)₃. What will be the formula of the compound formed when element X reacts with the carbonate ion? Assume element X has a fixed ion charge.

a) X(CO₃)₂
b) XCO₃
c) X₃(CO₃)₃
d) X(CO₃)₃
e) X₂CO₃

3. (4 pts) Calculate the total number of atoms in 40 grams of barium hydroxide (molar mass = 171.3 g/mol)

a) 4.2x10²³
b) 7.0x10²³
c) 8.4x10²³
d) 2.8x10²³
e) 1.4x10²³