Chemistry I Name _____

Date _____ Per _____

Qualitative Analysis Pre-Lab

A. Testing For The Positive Ions

1. The test for the **NH_4^+(aq) ion**:

   a. What two chemicals will you mix? _____ and _____

   b. What will you do to the mixture? _____

   c. How will you know if NH_4^+(aq) ion is there? _____

   _____

   d. The main reaction's molecular equation:

   _____

   e. The main reaction's net ionic equation:

   _____

   f. This reaction's secondary equation:

   _____

2. The test for the **Ba^{+2}(aq) ion**:

   a. What two chemicals will you mix? _____ and _____

   b. How will you know if Ba^{+2}(aq) ion is there? _____

   _____

   c. The reaction's molecular equation:

   _____

   d. The reaction's net ionic equation:

   _____

3. The test for the **Ca^{+2}(aq) ion**:

   Reaction (a:)

   i. What two chemicals will you mix? _____ and _____

   ii. How will you know if Ca^{+2}(aq) ion is there? _____

   _____

iii. The reaction's molecular equation:

_____

iv. The reaction's net ionic equation:

_____

Reaction (b:)

i. What two chemicals will you mix? _____ and _____

ii. How will you know if Ca^{+2}(aq) ion is there? _____

_____

iii. The reaction's molecular equation:

_____

iv. The reaction's net ionic equation:

_____

4. The test for the **Fe^{+3}(aq) ion**:

Reaction (a:)

i. What three chemicals will you mix? _____ , _____

and _____

ii. How will you know if Fe^{+3}(aq) ion is there? _____

_____

iii. The reaction's much debated molecular equation:

_____

Reaction (b:)

i. What three chemicals will you mix? _____ , _____

and _____

ii. How will you know if Fe^{+3}(aq) ion is there? _____

_____

iii. The reaction's more accepted molecular equation:

_____

B. Testing For The Negative Ions

5. The test for the **Cl^- (aq) ion:**

   a. What two chemicals will you mix? _____ and _____

   b. How will you know if Cl^- (aq) ion is there? _____

   _____

   c. The reaction's molecular equation:

   _____

   d. The reaction's net ionic equation:

   _____

   e. What's the third chemical you add? _____

   Why do you add it? _____

   _____

6. The test for the **CO_3^{-2}(aq) ion**:

   Reaction (a:)

   i. What two chemicals will you mix? _____ and _____

   ii. How will you know if CO_3^{-2}(aq) ion is there? _____

   _____

   iii. The reaction's molecular equation:

   _____

   iv. The reaction's net ionic equation:

   _____

   Reaction (b:)

   i. What two chemicals will you mix? _____ and _____

   ii. How will you know if CO_3^{-2}(aq) ion is there? _____

   _____

   iii. The reaction's molecular equation:

   _____

   iv. The reaction's net ionic equation:

   _____

Why did there need to be a second reaction for testing for the CO_3^{-2}(aq) ion? _____

_____

7. The test for the **SO_4^{-2}(aq) ion:**

a. What two chemicals will you mix? _____ and _____

b. How will you know if SO_4^{-2}(aq) ion is there? _____

_____

c. The reaction's molecular equation:

_____

d. The reaction's net ionic equation:

_____

e. What's the third chemical you add? _____

Why do you add it? _____

_____

8. The test for the **PO_4^{-3}(aq) ion:**

i. What three chemicals will you mix? _____ , _____

and _____

ii. How will you know if PO_4^{-3}(aq) ion is there? _____

_____

iii. The reaction's complicated molecular equation:

_____