Quiz 11A

Question 1. Identify the following components of the net ionic equation below:

H3PO4 (aq) + H2O (l) H3O+ (aq) + H2PO4- (aq) (4 points)

1. Acid \_\_\_\_\_H3PO4\_\_\_\_\_\_\_\_\_\_
2. Conjugate acid \_\_\_\_\_H3O+\_\_\_\_\_\_\_\_\_\_
3. Base \_\_\_\_\_H2O\_\_\_\_\_\_\_\_\_\_
4. Conjugate base \_\_\_\_\_H2PO4-\_\_\_\_\_\_\_\_\_\_

Question 2. A 25.0 mL sample of phosphoric acid requires 50.0 mL of 1.50 M sodium hydroxide for complete neutralization. What is the molarity of the acid given the unbalanced equation (6 points):

H3PO4 (aq) + 3 NaOH (aq) 🡪 Na3PO4 (aq) + 3 H2O (l)

Question 3. A sample of acid rain has a pH of 4.20 (6 points).

1. Calculate the [H3O+].
2. Calculate the pOH.
3. Calculate the [OH-].

Question 4. Name the following compounds (4 points):

1. CBr4 \_\_\_\_\_\_carbon tetrabromide\_\_\_\_\_\_\_\_\_\_\_\_
2. HF (aq) \_\_\_\_\_\_hydrofluoric acid \_\_\_\_\_\_\_\_\_\_\_\_\_
3. KOH \_\_\_\_\_\_potassium hydroxide\_\_\_\_\_\_\_\_\_\_\_\_\_
4. HNO3 (aq) \_\_\_\_\_\_nitric acid\_\_\_\_\_\_\_\_\_\_\_\_\_

Quiz 11B

Question 1. Name the following compounds (4 points):

1. HClO3 \_\_\_\_\_\_chloric acid\_\_\_\_\_\_\_\_\_\_\_\_
2. HBr (aq) \_\_\_\_\_\_hydrobromic acid\_\_\_\_\_\_\_\_\_\_\_\_
3. Mg(OH)2 \_\_\_\_\_\_magnesium hydroxide\_\_\_\_\_\_\_\_\_\_\_\_
4. CF4 \_\_\_\_\_\_carbon tetrafluoride \_\_\_\_\_\_\_\_\_\_\_\_

Question 2. A 10.0 mL sample of phosphoric acid requires 20.0 mL of 2.25 M sodium hydroxide for complete neutralization. What is the molarity of the acid given the unbalanced equation (6 points):

H3PO4 (aq) + 3 NaOH (aq) 🡪 Na3PO4 (aq) + 3 H2O (l)

Question 3. A sample of acid rain has a pH of 3.524 (6 points).

1. Calculate the [H3O+].
2. Calculate the pOH.
3. Calculate the [OH-].

Question 4. Identify the following components of the net ionic equation below:

SO42- (aq) + H2O (l) HSO4- (aq) + OH- (aq) (4 points)

1. Acid \_\_\_\_\_ H2O \_\_\_\_\_\_\_\_\_\_
2. Conjugate acid \_\_\_\_\_ HSO4-\_\_\_\_\_\_\_\_\_\_
3. Base \_\_\_\_\_ SO42-\_\_\_\_\_\_\_\_\_\_
4. Conjugate base \_\_\_\_\_ OH-\_\_\_\_\_\_\_\_\_\_