Answer Key: Acid and Bases Guys Video Questions

Instructions
While watching the *Founders of Chemistry* video about the Acid and Bases Guys, answer the following questions:

1. What was the first written definition of an acid and who thought of it?
   Acidity came from oxygen atoms in molecules - Antoine Lavoisier in the 1700’s

2. Why was that first definition wrong?
   Not all acids contain oxygen

3. What was Arrhenius’s definition of an acid and base? What observation made him think of this definition?
   How the acid or base dissolved in water – he noticed if the chemical produced positively charged hydrogen atoms (protons), it’s an acid. If the chemical produced a negatively charged molecule, or hydroxide, the chemical would be a base. If neither positively or negatively charged molecules are produced, the chemical would be neutral.

4. What does the pH scale measure? What does a 0, 7, and 14 on the scale mean?
   The number of protons – how acidic or basic a substance is
   0 = very acidic
   7 = neutral
   14 = very basic

5. When was the pH scale created and by who?
   1909 – Soren Sorensen

6. What is a Bronsted-Lowry acid? What is a Bronsted-Lowry base?
   Acid: proton donor
   Base: proton acceptor

7. What is a Lewis acid? What is a Lewis base?
   Acid: electron acceptor
   Base: electron donor

8. Which definitions do chemists use today? How do today’s chemists decide which definition to use?
   Arrhenius, Lewis, and Bronsted-Lowry depending on the chemical system (like if water is present)