1 pH is defined as -log10[H3O+]. The pH of pure water at room temperature is 7. What is the molarity of H3O+ at room temperature?

A 107 mol/L
B 7 mol/L
C 10-7 mol/L
D None of the above

2 A compound is dissolved in water and the resulting solution is 0.0001 M H3O+ at room temperature. Is the compound a Bronsted-Lowry acid?

A Yes
B No
C More information is needed

3 A Bronsted-Lowry acid is a molecule or ion that can donate a proton to another molecule or ion. The concentration of H3O+ in an aqueous solution is 2 M. What is the pH of the solution?

A 2
B 0.3
C -0.3
D -2

4 A Bronsted-Lowry base is a molecule or ion that can accept a proton from another molecule or ion. The concentration of H3O+ in an aqueous solution is 10-15 M. What is the pH of the solution?

A 15
B 1
C -1
D -15

5 pOH is defined as -log10[OH-] and at room temperature, pH + pOH = 14. A saturated aqeuous solution of Milk of Magnesia, Mg(OH)2, is about 0.0002 M OH-. The pH of the solution is

A -10.3
B -3.7
C 3.7
D 10.3

6 The pH of pure water at room temperature is 7. What fraction of water molecules have reacted to form H3O+ and OH-?

A 1 molecule in 7 molecules reacts
B 1 molecule in 60 molecules reacts
C 1 molecule in 70 million molecules reacts
D 1 molecule in 300 million molecules reacts
E none of the above