

Unit 11 Acid Base Review Topics

Concepts, Vocabulary, and Skills (math)

1. Arrhenius Acid and Base
2. Bronsted-Lowry Acid and Base
3. Hydrogen Ion and Hydroxide Ion
4. Common Strong and Weak acids
5. Water ionization constant
6. pH and pOH including formulas for calculations
7. Concentrations of ions in acids and bases using K_w to calculate them
8. Know methods of determining or detecting a substances pH
9. What is a buffered solution and how it is made
10. Acid base neutralization, how an indicator would respond.
11. Phenolphthalein

Practice!

CALCULATE:

$$[\text{OH}^-] = 3.14 \times 10^{-4}$$

$$\text{pOH} = ? \quad \underline{3.50} \quad -\log [3.14 \times 10^{-4}]$$

$$\text{pH} = 10.32$$

$$\text{pOH} = ? \quad \underline{3.68} \quad 14 - 10.32 = 3.68$$

$$\text{pH} = 2.26$$

$$[\text{H}^+] = ? \quad \underline{5.50 \times 10^{-3}} \quad 10^{-2.26}$$

$$[\text{H}^+] = 2.3 \times 10^{-11}$$

$$[\text{OH}^-] = ? \quad \underline{4.35 \times 10^{-4}} \quad [\text{OH}^-] = \frac{1 \times 10^{-14}}{2.3 \times 10^{-11}}$$

$$[\text{OH}^-] = 5.8 \times 10^{-7}$$

$$\text{pOH} = ? \quad \underline{6.24} \quad -\log [5.8 \times 10^{-7}]$$

[H ⁺]	[OH ⁻]	pH	pOH	acid/ base/neutral
1.00×10^{-7}	1.00×10^{-7}	7.00	7.00	neutral
4.39×10^{-5}	2.28×10^{-10}	4.36	9.64	acid
1.36×10^{-13}	7.36×10^{-2}	12.87	1.13	basic
5.62×10^{-5}	1.78×10^{-10}	4.25	9.75	acid

13. Name an acid and a base, describe what makes them acids and bases?

ACID:
BASE: