

CHAPTER 6	Calculating Concentration from pH and pOH	BLM 6.3.12
ASSESSMENT		

1. What is the concentration of hydronium ions in the following solutions given their pH values?
 - (a) $\text{pH} = 2.34$
 - (b) $\text{pH} = 15.6$
 - (c) $\text{pH} = 4.4$
 - (d) $\text{pH} = 1.892$
 - (e) $\text{pH} = 5.63$
2. What is the concentration of hydroxide ions in the following solutions given the following information?
 - (a) $\text{pOH} = 1.45$
 - (b) $\text{pOH} = 10.672$
 - (c) $\text{pOH} = 7.3$
 - (d) $\text{pH} = 2.982$
 - (e) $\text{pH} = 4.932$
 - (f) $\text{pH} = 10.2$
3. What is the concentration of hydrochloric acid, $\text{HCl}(\text{aq})$, that gives a solution with a pH of 3.69?
4. What is the concentration of lithium hydroxide, $\text{LiOH}(\text{aq})$, that gives a solution with a pOH of 4.674?

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5. What is the concentration of sodium hydroxide, $\text{NaOH}(\text{aq})$, that gives a solution with a pH of 10.32?

6. What is the concentration of barium hydroxide, $\text{Ba}(\text{OH})_2(\text{aq})$, that gives a solution with a pH of 11.836?

7. Is it possible to make an aqueous solution with strontium hydroxide, $\text{Sr}(\text{OH})_2(\text{aq})$, that gives a pOH of 10.54? If so calculate it. If not, explain why not.

8. What mass of hydrogen chloride gas, $\text{HCl}(\text{g})$, needs to be dissolved in 2.00 L of water to create a solution with a pH of 3.298?

9. What mass of rubidium hydroxide, $\text{RbOH}(\text{s})$, needs to be dissolved in 1.50 L of water to create a solution with a pH of 9.35?

10. What mass of strontium hydroxide, $\text{Sr}(\text{OH})_2(\text{s})$, needs to be dissolved in 3.0 L of water to create a solution with a pH of 8.34?