





4. Complete the following table. (6)

Substance	pH	pOH	[H <sup>+</sup> ] mol L <sup>-1</sup>
A	3.45		
B			0.2
C		2	

5. Calculate the pH of the following solutions.

(a) 0.1825 g of HCl dissolved in 200. mL of distilled water. (2)

(b) 0.980 g of H<sub>2</sub>SO<sub>4</sub> dissolved in 500. mL of distilled water (Assume the acid acts as a dibasic acid by completely dissociating). (2)

(c) 0.4000g of NaOH dissolved in 1.000 L of distilled water. (2)



WEAK ACIDS

6. What determines whether an acid is weak or strong? (2)

7. Complete the following table. (3)

Acid	pKa	Ka
A		$1.8 \times 10^{-3}$
B	4.12	
C	3.34	

8. Which of the acids in question #7 is the strongest? (1)

9. Methanoic acid, HCOOH, is a weak acid with a  $K_a = 1.6 \times 10^{-4} \text{ mol L}^{-1}$ . Calculate the pH of;

(a) A 0.200 M solution of methanoic acid. (2)

(b) A solution of 6.80 g of solid methanoic acid dissolved in 2.00 L of distilled water.  
(3)