

Name: \_\_\_\_\_

Block: \_\_\_\_\_

## Acids, Bases, pH, and Indicators

For each of the following solutions, calculate the information indicated. Choose pH indicators from the following table:

Indicator	Color in acid	Color in base	pH Range
bromophenol blue	yellow	purple	3.0–4.6
methyl red	red	yellow	4.4–6.2
brcomothymol blue	yellow	blue	6.0–7.6
phenol red	yellow	red	6.8–8.4
phenolphthalein	clear	pink	8.2–10.0

1.  $[\text{H}^+] = 2.5 \times 10^{-4} \text{ M}$

(a) pH =

(b) Is the solution acidic, basic, or neutral?

(c) Which indicator would be best for this solution?

2.  $[\text{H}^+] = 4.59 \times 10^{-7} \text{ M}$

(a) pH =

(b) Is the solution acidic, basic, or neutral?

(c) Which indicator would be best for this solution?

3.  $\text{pH} = 9.1$

(a)  $[\text{H}^+] =$

(b) Is the solution acidic, basic, or neutral?

(c) Which indicator would be best for this solution?

4.  $\text{pH} = 5.5$

(a)  $[\text{H}^+] =$

(b) Is the solution acidic, basic, or neutral?

(c) Which indicator would be best for this solution?

5.  $[\text{OH}^-] = 7.9 \times 10^{-7} \text{ M}$

(a)  $[\text{H}^+] =$

(b)  $\text{pH} =$

(c) Is the solution acidic, basic, or neutral?

(d) Which indicator would be best for this solution?