

Chem 1020 pH Calculations Worksheet

Fill in the empty blanks, and tell whether the solution will be acidic, basic, or neutral.

*Perform the starred problems *without* a calculator.

Fun fact: for a pH or pOH value, the only sig figs are the numbers to the right of the decimal point. So, pH = 4.73 has 2 sig figs. Why? The digits to the left of the decimal correspond with the power of 10, and thus have no uncertainty. All of the values in this table have 3 sig figs!

	$[\text{H}_3\text{O}^+]$	$[\text{OH}^-]$	pH	pOH	Acidic/Basic/Neutral
1.	2.35×10^{-3}	4.26×10^{-12}	2.629	11.371	acidic
2.	2.03×10^{-7}	4.93×10^{-8}	6.693	7.307	acidic
3.	4.79×10^{-9}	2.09×10^{-6}	8.320	5.680	basic
4.	1.86×10^{-4}	5.37×10^{-11}	3.730	10.270	acidic
5.	3.72×10^{-10}	2.69×10^{-5}	9.429	4.571	basic
6.	1.00×10^{-7}	* 1.00×10^{-7}	7.000	7.000	neutral
7.	2.63×10^{-3}	3.80×10^{-12}	2.580	11.420	acidic
8.	1.82×10^{-9}	5.50×10^{-6}	8.740	5.260	basic
9.	* 1.00×10^{-3}	1.00×10^{-11}	3.000	11.000	acidic
10.	2.34×10^{-13}	4.27×10^{-2}	12.630	1.370	basic
11.	1.00×10^{-8}	1.00×10^{-6}	*8.000	6.000	basic
12.	1.10×10^{-12}	9.12×10^{-3}	11.960	2.040	basic