KEY - CHEMISTRY pH PRACTICE (#2)

1) How acidic or basic a substance is… (answers vary)
2) 14
3) 0
4) 7
5) A pH of 6.7 is a weak acid. It is less than 7, but barely.
6) A pH of 13.1 a strong base. It is almost 14.

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7) A solution has $[OH^-]$ of 1.00×10^{-9} M.
   a) $[H^+] = 1.00 \times 10^{-5}$ M
   b) pH = 5
   c) pOH = 9
   d) ACID   (pH = 5)

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8) A solution has $[H^+] = 1.00 \times 10^{-11}$ M.
   a) $[OH^-] = 1.00 \times 10^{-3}$ M
   b) pOH = 3
   c) pH = 11
   d) BASE   (pH = 11)

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9) A solution has a pOH of 8.
   a) pH = 6
   b) $[H^+] = 1.0 \times 10^{-6}$ M
   c) $[OH^-] = 1.0 \times 10^{-8}$ M
   d) ACID (pH = 6)

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10) A solution has a pH = 7.
   a) $[OH^-] = 1.0 \times 10^{-7}$ M
   b) pOH = 7
   c) $[H^+] = 1.0 \times 10^{-7}$ M
   d) NEUTRAL (pH = 7)

(#11-20 for Chem IH only)

11) A solution has $[H^+] = 3.39 \times 10^{-7}$ M.
   a) $[OH^-] = 2.95 \times 10^{-8}$ M
   b) pOH = 7.53
   c) pH = 6.47
   d) ACID (pH < 7)

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12) A solution has a pOH of 8.55.
    a) pH = 5.45
    b) $[H+] = 3.55 \times 10^{-6}$ M
    c) $[OH^-] = 2.82 \times 10^{-9}$ M
    d) ACID (pH < 7)

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13) A solution has $[OH^-]$ of 4.44×10^{-6} M.
    a) $[H^+] = 2.24 \times 10^{-9}$ M
    b) pH = 8.65
    c) pOH = 5.35
    d) BASE (pH > 7)

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14) A solution has a pH = 12.76.
    a) pOH = 1.24
    b) $[H^+] = 1.74 \times 10^{-13}$ M
    c) $[OH-] = 5.75 \times 10^{-2}$ M
    d) BASE (pH > 7)

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15) A solution has a pOH of 10.75.
    a) pH = 3.25
    b) $[H+] = 5.62 \times 10^{-4}$ M
    c) $[OH^-] = 1.78 \times 10^{-11}$ M
    d) ACID (pH < 7)

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16) A solution has $[H^+] = 5.12 \times 10^{-8}$ M.
    a) $[OH^-] = 1.95 \times 10^{-7}$ M
    b) pOH = 6.71
    c) pH = 7.29
    d) BASE (pH > 7)

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17) A pH change from 8 →12 is 4 increments on the scale.
    10^4 = 10,000 times more basic

18) A pH change from 5 →3 is 2 increments on the scale.
    10^2 = 100 times more acidic

19) A pH change from 9 → 6 is 3 increments on the scale.
    10^3 = 1000 times less basic

20) A pH change from 0 →1 is 1 increment on the scale.
    10^1 = 10 times less acidic