ALBERTA CHEMISTRY 20 · UNIT C · 10 QUESTIONS

Matter as Solutions, Acids and Bases — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **The concentration of sodium ions, $Na^+(aq)$, in a 0.20 mol/L solution of sodium carbonate, $Na_2CO_3(aq)$, is**

- A 0.10 mol/L
- B 0.40 mol/L
- C 0.20 mol/L
- D 0.60 mol/L

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2 **Which of the following 0.10 mol/L solutions conducts electricity only slightly?**

- **A** HCl(aq)
- **B** NaOH(aq)
- **C** $KNO_3(aq)$
- **D** $CH_3COOH(aq)$

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3 **A 40.0 mL sample of 1.5 mol/L solution is diluted to a final volume of 500.0 mL. The final concentration, to the nearest hundredth, is ____ mol/L.**

ANSWER _____

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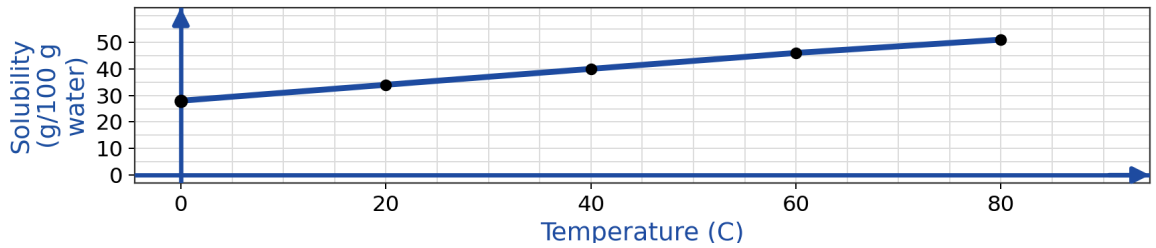
4 **The solubility curve below shows the solubility of potassium chloride in water. What is the solubility at 40°C?**



- **A** 28 g/100 g water
- **B** 34 g/100 g water
- **C** 40 g/100 g water
- **D** 51 g/100 g water

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5 **Which change will increase the rate at which a sugar cube dissolves in water, without changing the solubility of the sugar?**

- **A** increasing the temperature of the water
- **B** stirring the mixture
- **C** increasing the pressure on the solution
- **D** using one large cube instead of crushed sugar

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6 **A solution has a hydronium ion concentration of 2.5×10^{-3} mol/L. The pH of the solution, to the nearest hundredth, is _____**

ANSWER

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7 **A 5.0 mol/L solution of ethanoic acid is best described as**

A a concentrated weak acid

B a dilute strong acid

C a concentrated strong acid

D a dilute weak acid

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8 **A 25.0 mL sample of $H_2SO_4(aq)$ is completely neutralized by 30.0 mL of 0.200 mol/L NaOH(aq). The concentration of the $H_2SO_4(aq)$, to the nearest thousandth, is ____ mol/L.**

ANSWER

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9 **The two major gases released by the combustion of fossil fuels that are responsible for acid deposition are**

- **A** carbon dioxide and oxygen
- **B** methane and carbon monoxide
- **C** ozone and hydrogen
- **D** sulfur dioxide and nitrogen oxides

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10 **A student must prepare 250.0 mL of 0.100 mol/L $CuSO_4(aq)$ from solid copper(II) sulfate, molar mass 159.61 g/mol. The mass of $CuSO_4(s)$ required, to the nearest hundredth of a gram, is ____ g.**

ANSWER _____

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ANSWER KEY

1. B
2. D
3. 0.12
4. C
5. B
6. 2.6
7. A
8. 0.12
9. D
10. 3.99

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