CALIFORNIA CHEMISTRY · UNIT 4 · 10 QUESTIONS

Energy, Equilibrium, and Nuclear Processes — 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 **For an equilibrium with equal moles of gas on both sides, changing the pressure has**

- **A** Little or no effect on the position
- **B** A large shift to reactants
- **C** A large shift to products
- **D** No effect on rate

Understand It with Pulse | Flag a mistake

2 **A base in water increases the concentration of**

A Protons only

B Hydroxide ions

C Electrons

D Hydrogen ions

Understand It with Pulse | Flag a mistake

3 **A solution with pH 11 is**

A Strongly acidic

B Pure water

C Neutral

D Basic

Understand It with Pulse | Flag a mistake

4 **Neutralization between an acid and a base typically produces**

- A A salt and water
- B Only oxygen
- C Only hydrogen gas
- D A metal

Understand It with Pulse | Flag a mistake

5 **Nuclear fusion is the process in which light nuclei**

- A Join to form a heavier nucleus
- B Lose electrons
- C Split apart
- D Form molecules

Understand It with Pulse | Flag a mistake

6 **Nuclear reactions release far more energy per atom than chemical reactions because they involve changes in the**

A Temperature only

B Bonds only

C Nucleus

D Electron shells only

Understand It with Pulse | Flag a mistake

7 **A half life is the time taken for**

A All of a sample to decay

B A sample to double

C A sample to melt

D Half of a radioactive sample to decay

Understand It with Pulse | Flag a mistake

8 **A sample decays with a half life of 10 minutes After 30 minutes, the fraction remaining is**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **A sample has mass 64 g and a half life of 5 days After 15 days, the mass remaining, in grams, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **In alpha decay, the product element is found two places earlier in the periodic table because its atomic number decreases by**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	A	**5.**	A	**9.**	8
2.	B	**6.**	C	**10.**	2
3.	D	**7.**	D		
4.	A	**8.**	0.125		

© 2026 Brett Robbins. All Rights Reserved.