PRINCE EDWARD ISLAND CHEMISTRY 12 · UNIT A

Thermochemistry — Practice Test

Prince Edward Island Chemistry 12 • 25 questions

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 **Heating 100 grams of water by 10 degrees Celsius with a specific heat capacity of 4 joules per gram per degree Celsius absorbs this many joules**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **Heating 200 grams of water by 5 degrees Celsius with a specific heat capacity of 4 joules per gram per degree Celsius absorbs this many joules**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **Heating 50 grams of water by 20 degrees Celsius with a specific heat capacity of 4 joules per gram per degree Celsius absorbs this many joules**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A reaction releases 500 kilojoules. The enthalpy change in kilojoules, with sign, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A reaction absorbs 250 kilojoules. The enthalpy change in kilojoules, with sign, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **Step enthalpies of -100 and -50 kilojoules sum to this many kilojoules**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **Step enthalpies of 200 and -80 kilojoules sum to this many kilojoules**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **An exothermic reaction has an enthalpy change that is**

A negative

B positive

C zero

D undefined

Understand It with Pulse | Flag a mistake

9 **An endothermic reaction has an enthalpy change that is**

A negative

B zero

C undefined

D positive

Understand It with Pulse | Flag a mistake

10 **In a calorimetry experiment, heat lost by the reaction is assumed to be**

A converted to light only

B stored as potential energy only

C gained by the surroundings in the calorimeter

D lost to the universe only

Understand It with Pulse | Flag a mistake

11 **The standard enthalpy of formation of an element in its standard state is**

A 100

B 0

C 1

D -1

Understand It with Pulse | Flag a mistake

12 **Hess law works because enthalpy is a**

A state function

B path function

C rate function

D equilibrium function

Understand It with Pulse | Flag a mistake

13 **Breaking bonds requires energy, so bond breaking is**

A exothermic

B neutral

C spontaneous always

D endothermic

Understand It with Pulse | Flag a mistake

14 **Forming bonds releases energy, so bond forming is**

A neutral

B impossible

C exothermic

D endothermic

Understand It with Pulse | Flag a mistake

15 **A catalyst changes a reaction by providing a pathway with**

A more reactants

B lower activation energy

C higher enthalpy

D lower enthalpy only

Understand It with Pulse | Flag a mistake

16 **Activation energy is the energy needed to reach the**

A transition state

B products

C reactants

D equilibrium

Understand It with Pulse | Flag a mistake

17 **Heating 250 grams of water by 8 degrees Celsius with a specific heat capacity of 4 joules per gram per degree Celsius absorbs this many joules**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A sample absorbs 2000 joules and its temperature rises by 10 degrees Celsius. Its heat capacity in joules per degree Celsius is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **Combustion of 2 moles of a fuel releases 800 kilojoules per mole. The total heat released in kilojoules is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **A reaction with enthalpy change -120 kilojoules per mole for 3 moles releases this many kilojoules**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **Heating 400 grams of water by 5 degrees Celsius with a specific heat capacity of 4 joules per gram per degree Celsius absorbs this many joules**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A reaction absorbs 900 kilojoules for 3 moles. The enthalpy per mole in kilojoules is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **Step enthalpies of 150 and -50 kilojoules sum to this many kilojoules**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A sample absorbs 5000 joules and its temperature rises by 25 degrees Celsius. Its heat capacity in joules per degree Celsius is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **A reaction releases 450 kilojoules for 3 moles. The heat released per mole in kilojoules is**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. 4000
2. 4000
3. 4000
4. -500
5. 250
6. -150
7. 120
8. A
9. D
10. C
11. B
12. A
13. D
14. C
15. B
16. A
17. 8000
18. 200
19. 1600
20. 360
21. 8000
22. 300
23. 100
24. 200
25. 150

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