QUEBEC CHEMISTRY, SECONDARY V · UNIT B

Energy Changes in Reactions — Practice Test

Quebec Chemistry, Secondary V • 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 **A reaction releases 300 kilojoules per mole. For 2 moles the heat released, in kilojoules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **Use the specific heat capacity of water as 4.19 joules per gram per degree Celsius. A sample of 100 grams of water warms by 10 degrees Celsius. The heat absorbed, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A reaction can be built from two steps with enthalpy changes -100 kilojoules per mole and -200 kilojoules per mole. By Hess law the overall enthalpy change, in kilojoules per mole, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **In a reaction the total bond energy broken is 800 kilojoules per mole and the total bond energy formed is 1100 kilojoules per mole. The enthalpy change, in kilojoules per mole, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A reaction can be built from two steps with enthalpy changes -80 kilojoules per mole and -120 kilojoules per mole. By Hess law the overall enthalpy change, in kilojoules per mole, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A reaction has enthalpy change -200 kilojoules per mole. For 0.5 moles the heat released, in kilojoules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A reaction profile diagram shows energy against the**

A time in years

B mass of catalyst

C progress of the reaction

D colour change

Understand It with Pulse | Flag a mistake

8 **Activation energy is the minimum energy colliding particles need to**

A melt

B dissolve

C evaporate

D react

Understand It with Pulse | Flag a mistake

9

An endothermic reaction absorbs heat from the

A reactants only

B surroundings

C products only

D catalyst

Understand It with Pulse | Flag a mistake

10

An exothermic reaction releases heat to the

A surroundings

B reactants only

C products only

D catalyst

Understand It with Pulse | Flag a mistake

11 **An exothermic reaction transfers 500 joules to the surroundings. The surroundings gain, in joules**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **Breaking chemical bonds requires energy, so bond breaking is**

A exothermic

B endothermic

C neutral

D spontaneous only

Understand It with Pulse | Flag a mistake

13 **Calorimetry measures heat changes by measuring a change in**

A temperature

B colour

C mass

D volume

Understand It with Pulse | Flag a mistake

14 **Combustion of a fuel is an example of an**

A exothermic reaction

B endothermic reaction

C neutral reaction

D reversible reaction only

Understand It with Pulse | Flag a mistake

15 **Dissolving ammonium nitrate in water feels cold because the process is**

A exothermic

B endothermic

C neutral

D radioactive

Understand It with Pulse | Flag a mistake

16 **Forming chemical bonds releases energy, so bond formation is**

A endothermic

B neutral

C exothermic

D impossible

Understand It with Pulse | Flag a mistake

17 **Heat flows spontaneously from a hotter object to a**

A hotter object

B colder object

C larger object

D smaller object

Understand It with Pulse | Flag a mistake

18 **Hess law states that the overall enthalpy change is independent of the**

A temperature only

B catalyst used

C path taken

D colour of reactants

Understand It with Pulse | Flag a mistake

19 **In a reaction profile the peak represents the**

A products

B reactants

C catalyst

D activated complex

Understand It with Pulse | Flag a mistake

20 **A reaction releases 100 kilojoules per mole. For 3 moles the heat released, in kilojoules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **Use the specific heat capacity of water as 4.19 joules per gram per degree Celsius. A sample of 200 grams of water warms by 5 degrees Celsius. The heat absorbed, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A reaction can be built from two steps with enthalpy changes -150 kilojoules per mole and 50 kilojoules per mole. By Hess law the overall enthalpy change, in kilojoules per mole, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **In a reaction the total bond energy broken is 1200 kilojoules per mole and the total bond energy formed is 900 kilojoules per mole. The enthalpy change, in kilojoules per mole, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A reaction releases 50 kilojoules per mole. For 4 moles the heat released, in kilojoules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **Use the specific heat capacity of water as 4.19 joules per gram per degree Celsius. A sample of 100 grams of water warms by 20 degrees Celsius. The heat absorbed, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. 600
2. 4190
3. -300
4. -300
5. -200
6. 100
7. C
8. D
9. B
10. A
11. 500
12. B
13. A
14. A
15. B
16. C
17. B
18. C
19. D
20. 300
21. 4190
22. -100
23. 300
24. 200
25. 8380

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