NOVA SCOTIA CHEMISTRY 12 · UNIT A

Thermochemical Changes — Practice Test

Nova Scotia 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 **A mass of 100 grams of water is heated by 10 degrees Celsius. Using a specific heat capacity of 4.2 joules per gram per degree Celsius, the heat absorbed, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A mass of 200 grams of water is heated by 5 degrees Celsius. Using a specific heat capacity of 4.2 joules per gram per degree Celsius, the heat absorbed, in joules, is**

ANSWER _____

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3 **A mass of 100 grams of water is heated by 20 degrees Celsius. Using a specific heat capacity of 4.2 joules per gram per degree Celsius, the heat absorbed, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **840 kilojoules of heat are released when 2 moles of a fuel burn. The molar enthalpy of combustion, in kilojoules per mole, is**

ANSWER _____

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5 **1260 kilojoules of heat are released when 3 moles of a fuel burn. The molar enthalpy of combustion, in kilojoules per mole, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **600 kilojoules of heat are released when 2 moles of a fuel burn. The molar enthalpy of combustion, in kilojoules per mole, is**

ANSWER _____

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7 **Two steps have enthalpy changes of -100 and -200 kilojoules per mole. The overall enthalpy change, in kilojoules per mole, is**

ANSWER _____

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8 **Two steps have enthalpy changes of -50 and -150 kilojoules per mole. The overall enthalpy change, in kilojoules per mole, is**

ANSWER _____

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9 **Two steps have enthalpy changes of -300 and -100 kilojoules per mole. The overall enthalpy change, in kilojoules per mole, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **Heat of 8400 joules warms 100 grams of water. Using 4.2 joules per gram per degree Celsius, the temperature rise, in degrees Celsius, is**

ANSWER _____

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11 **Heat of 4200 joules warms 100 grams of water. Using 4.2 joules per gram per degree Celsius, the temperature rise, in degrees Celsius, is**

ANSWER _____

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12 **Heat of 21000 joules warms 250 grams of water. Using 4.2 joules per gram per degree Celsius, the temperature rise, in degrees Celsius, is**

ANSWER _____

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13 **Heat of 8400 joules warms water by 10 degrees Celsius. Using 4.2 joules per gram per degree Celsius, the mass of water, in grams, is**

ANSWER _____

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14 **Heat of 4200 joules warms water by 5 degrees Celsius. Using 4.2 joules per gram per degree Celsius, the mass of water, in grams, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **Heat of 12600 joules warms water by 10 degrees Celsius. Using 4.2 joules per gram per degree Celsius, the mass of water, in grams, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **A fuel sample of 10 grams releases 420 kilojoules when burned. The energy released per gram, in kilojoules per gram, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A fuel sample of 20 grams releases 600 kilojoules when burned. The energy released per gram, in kilojoules per gram, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A fuel sample of 5 grams releases 250 kilojoules when burned. The energy released per gram, in kilojoules per gram, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **An exothermic reaction**

A releases heat to the surroundings

B absorbs heat

C has no energy change

D needs constant heating

Understand It with Pulse | Flag a mistake

20 **Enthalpy change is measured at**

A constant volume only

B constant pressure

C zero temperature

D high pressure only

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21 **A calorimeter measures heat change by measuring**

- A pressure change only
- B volume change only
- C temperature change of a known mass
- D colour change

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22 **Hess law states that the enthalpy change of a reaction is**

- A dependent on the route
- B always zero
- C always positive
- D independent of the route taken

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23 **The activation energy is the minimum energy needed for**

- A a reaction to start
- B a reaction to stop
- C products to cool
- D bonds to stay intact

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24 **For an endothermic reaction the enthalpy change is**

- A negative
- B positive
- C zero
- D constant

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25

Breaking chemical bonds

A releases energy

B needs no energy

C absorbs energy

D always forms heat

Understand It with Pulse

Flag a mistake

ANSWER KEY

1.	4200	**10.**	20	**19.**	A
2.	4200	**11.**	10	**20.**	B
3.	8400	**12.**	20	**21.**	C
4.	-420	**13.**	200	**22.**	D
5.	-420	**14.**	200	**23.**	A
6.	-300	**15.**	300	**24.**	B
7.	-300	**16.**	42	**25.**	C
8.	-200	**17.**	30		
9.	-400	**18.**	50		

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