ARIZONA CHEMISTRY · UNIT 4 · 25 QUESTIONS

Gases, Thermodynamics, and Equilibrium — 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 **At constant temperature, when the pressure of a gas rises, its volume**



A Increases

B Decreases

C Stays the same

D Falls to zero

Understand It with Pulse | Flag a mistake

2 **A gas occupies 4 L at 3 atm. At constant temperature and 6 atm, its volume, in liters, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **At constant pressure, the volume of a gas is proportional to its**

A Mass

B Density

C Temperature in kelvin

D Temperature in degrees Celsius

Understand It with Pulse | Flag a mistake

4 **A gas occupies 3 L at 300 K. At constant pressure and 600 K, its volume, in liters, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **At constant volume, the pressure of a gas is proportional to its**

A Mass

B Density

C Volume

D Temperature in kelvin

Understand It with Pulse | Flag a mistake

6 **A gas has pressure 2 atm and volume 6 L at temperature 300 K. At 3 atm and 600 K, its volume, in liters, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **Standard temperature and pressure for a gas are**



A 100 degrees Celsius and 1 atm

B 0 kelvin and 1 atm

C 0 degrees Celsius and 1 atm

D 25 degrees Celsius and 2 atm

Understand It with Pulse | Flag a mistake

8 **A gas mixture has total pressure 150 kPa. Two gases have partial pressures 30 kPa and 90 kPa. The partial pressure, in kilopascals, of the third gas is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **In kinetic theory, the temperature of a gas measures the average**

A Mass of its particles

B Size of its particles

C Charge of its particles

D Kinetic energy of its particles

Understand It with Pulse | Flag a mistake

10 **Gas particles spread out faster when the temperature is**



A Higher

B Lower

C Zero

D Unchanged

Understand It with Pulse | Flag a mistake

11 **A sample of water has mass 100 g, specific heat 4.18, and temperature rise 10 degrees Celsius. The heat absorbed, in joules, is _____**

ANSWER

Understand It with Pulse | Flag a mistake

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



A Positive

B Negative

C Zero

D Always large

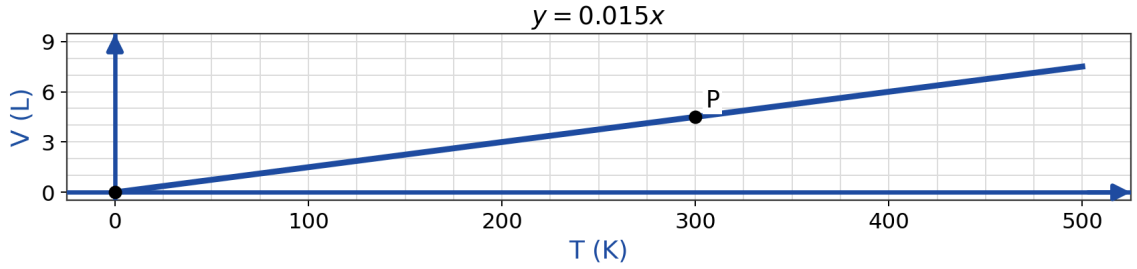
Understand It with Pulse | Flag a mistake

13 **An endothermic reaction absorbs heat, so its surroundings**

- **A** Get warmer
- **B** Get cooler
- **C** Stay the same
- **D** Boil

Understand It with Pulse | Flag a mistake

14 **The graph shows volume against temperature in kelvin for a gas. The volume at 300 K is**



- **A** 3 L
- **B** 4.5 L
- **C** 6 L
- **D** 9 L

Understand It with Pulse | Flag a mistake

15 **One atmosphere equals 760 mmHg. A pressure of 2 atm, in millimetres of mercury, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **If the concentration of a reactant is increased, equilibrium shifts**

A Not at all

B Until the reaction stops

C Toward the products

D Toward the reactants

Understand It with Pulse | Flag a mistake

17 **At equilibrium, the forward and reverse reaction rates are**

A Zero

B Opposite in sign

C Increasing

D Equal

Understand It with Pulse | Flag a mistake

18 **A temperature of 27 degrees Celsius, in kelvin, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **A catalyst in a reversible reaction**

- A Speeds both directions and leaves the equilibrium position unchanged
- B Shifts equilibrium toward products
- C Shifts equilibrium toward reactants
- D Stops the reverse reaction

Understand It with Pulse | Flag a mistake

20 **A gas occupies 8 L at 400 K. At constant pressure and 200 K, its volume, in liters, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **A gas behaves most like an ideal gas at**

A Low temperature and low pressure

B High temperature and high pressure

C High temperature and low pressure

D Low temperature and high pressure

Understand It with Pulse | Flag a mistake

22 **A reaction releases 150 kJ per mole. The heat released, in kilojoules, by 3 mol is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **Entropy increases when**

A A gas condenses

B A liquid freezes

C A gas dissolves in a solid

D A solid melts

Understand It with Pulse | Flag a mistake

24 **A gas has pressure 100 kPa at 300 K. At constant volume and 600 K, its pressure, in kilopascals, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

25

At equilibrium, adding more product shifts the reaction

A Toward the products

B Toward the reactants

C Not at all

D Until it stops

Understand It with Pulse

Flag a mistake

ANSWER KEY

1. B
2. 2
3. C
4. 6
5. D
6. 8
7. C
8. 30
9. D
10. A
11. 4180
12. B
13. B
14. B
15. 1520
16. C
17. D
18. 300
19. A
20. 4
21. C
22. 450
23. D
24. 200
25. B

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