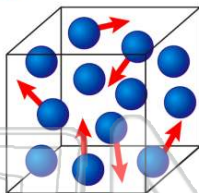




Name _____ Class _____ Date _____

- 1 As the **temperature of a gas is increased** from 0°C to 10°C at **constant pressure**, the **volume of the gas will**

- A increase by $\frac{1}{273}$
 B increase by $\frac{10}{273}$
 C decrease by $\frac{1}{273}$
 D decrease by $\frac{10}{273}$



- 2 A gas sample consisting of 2 moles of hydrogen and 1 mole of oxygen is collected over water at 29°C and 750 torr. **What is the partial pressure of the hydrogen in the sample?**

- A 240 torr C 720 torr
 B 480 torr D 750 torr

- 3 The stoppered tubes below, labeled A through D, each contain a **different gas**. When the tubes are unstoppered at the same time and under the same conditions of temperature and pressure, **from which tube will gas diffuse at the fastest rate?**



- 4 If 60 liters of hydrogen gas at 546 K is **cooled** to 273 K at **constant pressure**, the **new volume** of the gas will be

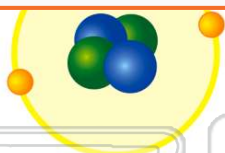
- A 120 L
 B 20 L
 C 30 L



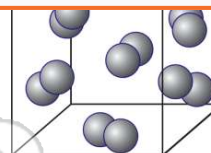
PREVIEW

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- B krypton
 C neon
 D helium



- B 2.00 L
 C 11.2 L
 D 22.4 L

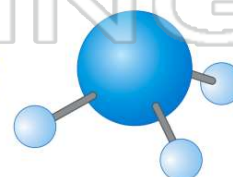


- 9 As the volume of a **fixed mass** of a gas increases at constant temperature, the **pressure** of the gas

- A decreases
 B increases
 C remains the same

- 10 At STP, a **22.4-liter sample of $\text{NH}_3(\text{g})$** contains the **same** number of molecules as

- A 11.2 L of $\text{H}_2(\text{g})$
 B 22.4 L of $\text{CO}_2(\text{g})$
 C 33.6 L of $\text{CH}_4(\text{g})$
 D 44.8 L of $\text{O}_2(\text{g})$

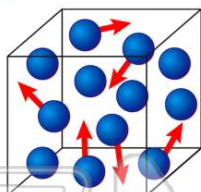




ANSWER KEY

As the **temperature of a gas is increased** from 0°C to 10°C at **constant pressure**, the **volume of the gas will**

- A increase by $\frac{1}{273}$
- B increase by $\frac{10}{273}$
- C decrease by $\frac{1}{273}$
- D decrease by $\frac{10}{273}$



(b)

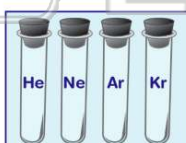
A gas sample consisting of 2 moles of hydrogen and 1 mole of oxygen is collected over water at 29°C and 750 torr.

What is the **partial pressure of the hydrogen in the sample?**

- A 240 torr
- B 480 torr
- C 720 torr
- D 750 torr

(b)

The stoppered tubes below, labeled A through D, each contain a **different gas**. When the tubes are unstopped at the same time and under the same conditions of temperature and pressure, **from which tube will gas diffuse at the fastest rate?**



- A 1
- C 3

B

(a)

If 60 liters of hydrogen gas at 546 K is **cooled to 273 K at constant pressure**, the **new volume** of the gas will be

- A 120 L
- B 20 L
- C 30 L
- D 40 L

(c)



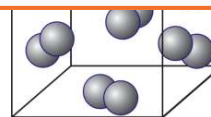
PREVIEW

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D helium



D 22.4 L



As the volume of a **fixed mass** of a gas increases at constant temperature, the **pressure** of the gas

- A decreases
- B increases
- C remains the same

(a)

At STP, a **22.4-liter sample of NH₃(g)** contains the **same** number of molecules as

- A 11.2 L of H₂(g)
- B 22.4 L of CO₂(g)
- C 33.6 L of CH₄(g)
- D 44.8 L of O₂(g)

(b)

