NUNAVUT CHEMISTRY 20 · UNIT B · 10 QUESTIONS

Forms of Matter — Gases — 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 **A sealed, rigid container holds a gas at a pressure of 300 kPa at 27°C. The container is cooled to -73°C. The new pressure of the gas is**

- A 200 kPa
- B 450 kPa
- C 300 kPa
- D 100 kPa

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2 **A sample of gas occupies 4.00 L at 200 kPa and 27°C. The pressure is changed to 100 kPa and the temperature to 127°C. The new volume of the gas, to the nearest tenth of a litre, is ____**

ANSWER _____

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3 **Oxygen makes up 21% of the air in a room, and the total air pressure is 101.3 kPa. The partial pressure of oxygen in the room is**

- A 80.0 kPa
- B 21.3 kPa
- C 101.3 kPa
- D 482 kPa

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4 **What volume is occupied by 0.500 mol of a gas at a pressure of 200 kPa and a temperature of 27°C? Use R = 8.314 L· kPa/(mol· K).**

- A 6.24 L
- B 12.5 L
- C 3.12 L
- D 0.160 L

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5 **A 5.00 L container holds a gas at a pressure of 300 kPa and a temperature of 127°C. Use R = 8.314 L· kPa/(mol· K). The amount of gas, to the nearest hundredth of a mole, is ____**

ANSWER _____

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6 **At SATP (25°C and 100 kPa), the molar volume of any gas is 24.8 L/mol. The volume occupied by 2.50 mol of a gas at SATP is**

A 56.0 L

B 9.92 L

C 62.0 L

D 24.8 L

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7 **A 0.880 g sample of a pure gas occupies 250 mL at 100 kPa and 27°C. Use R = 8.314 L· kPa/(mol· K). The molar mass of the gas, to the nearest tenth of a gram per mole, is ____**

ANSWER _____

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8 **A gas has a molar mass of 32.0 g/mol. The density of the gas at 100 kPa and 27°C, using R = 8.314 L· kPa/(mol· K), is**

- A 1.43 g/L
- B 2.56 g/L
- C 0.780 g/L
- D 1.28 g/L

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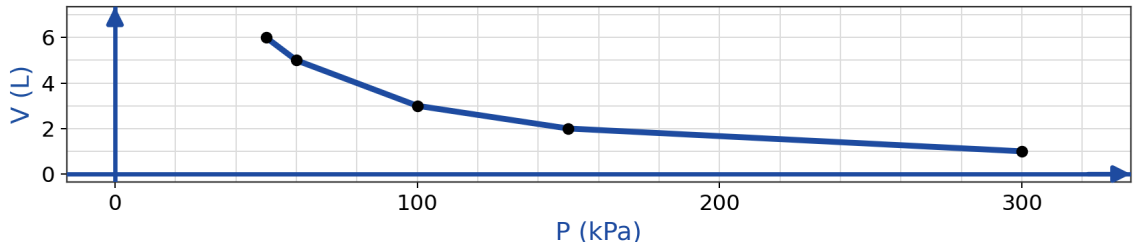
9 **The volume-pressure graph below is for a fixed amount of gas at constant temperature. What is the volume of the gas when its pressure is 100 kPa?**



- **A** 1.0 L
- **B** 2.0 L
- **C** 3.0 L
- **D** 6.0 L

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10 **A gas occupies 250 mL at 27°C. At constant pressure, the gas is heated until its volume is 375 mL. The final temperature of the gas, in degrees Celsius, is _____**

ANSWER _____

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ANSWER KEY

1. A
2. 10.7
3. B
4. A
5. 0.45
6. C
7. 87.8
8. D
9. C
10. 177

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