

Gas Laws Practice Problems, Numero Dos

- Perform the following conversions of pressure units:
 1.6×10^5 torr = _____ atm
[A] 2.1×10^2 [B] 3.2×10^2 [C] 2.1×10^3 [D] 3.2×10^3 [E] 4.6×10^2
- A gas has a volume of 5.0 L at a certain pressure. How must the pressure be changed to double the volume of the gas at constant temperature?
[A] There is not enough information to decide.
[B] The pressure must be quadrupled. [C] The pressure must be doubled.
[D] The pressure must be halved. [E] none of these
- A 6.5-L sample of nitrogen at 25°C and 1.5 atm is allowed to expand to 13.0 L. The temperature remains constant. What is the final pressure?
[A] 3.0 atm [B] 0.063 atm [C] 0.75 atm [D] 0.12 atm [E] 0.38 atm
- A gas sample is held at constant pressure. The gas occupies 3.62 L of volume when the temperature is 21.6°C. Determine the temperature at which the volume of the gas is 3.45 L.
[A] 294 K [B] 309 K [C] 20.6 K [D] 326 K [E] 281 K
- A sample of a gas in a container fitted with a piston has a temperature above 0°C. The Celsius temperature is doubled. What is true about the ratio of final volume to initial volume for the gas?
[A] It is greater than 2:1. [B] It is 1:1. [C] It is less than 2:1.
[D] It is 1:2. [E] It is 2:1.
- If the temperature of an ideal gas is raised from 100°C to 200°C, while the pressure remains constant, the volume
[A] increases by a factor of 100 [B] remains the same [C] doubles
[D] goes to 1/2 the original volume [E] none of these
- A gas originally occupying 10.1 L at 0.925 atm and 25°C is changed to 12.2 L at 625 torr. What is the new temperature?
- A specified quantity of an unknown gas has the volume of 14.3 mL at 22°C and 659 torr. Calculate the volume at STP.

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9. A gas occupies 15.0 L at STP. What volume will it occupy at 735 torr and 57°C?
[A] 6.7 L [B] 1.2 L [C] 19 L [D] 4.6 L [E] 9.7 L
10. A 25.0-L sample of gas at STP is heated to 55°C at 605 torr. What is the new volume?
[A] 56 L [B] 76 L [C] 38 L [D] 17 L [E] 3.5 L

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[1] [A]

[2] [D]

[3] [C]

[4] [E]

[5] [C]

[6] [E]

[7] 47°C

[8] 11.5 mL

[9] [C]

[10] [C]