

Gas Laws Practice Benchmark

1. A given mass of oxygen occupies 500 ml when the pressure is 800 mm of Hg. What volume will the gas occupy at 200 mm Hg, provided the temperature remains constant?

_____ mL

2. Calculate the volume that will be occupied by 240 mL of hydrogen, measured at 360 mm Hg, when the pressure is changed to 1080 mm Hg.

_____ mL

3. A gas has a volume of 4 L at a temperature of $-33\text{ }^{\circ}\text{C}$. If the temperature is increased to $27\text{ }^{\circ}\text{C}$ and the pressure remains constant, what will be the new volume of the gas?

_____ L

4. A gas measures 140 ml at 400 K. Find its volume at 120 K if the pressure remains constant.

_____ mL

5. To what temperature must a sample of gas at 100 K and 5 atm be heated in order to increase the pressure to 8 atm?

_____ K

6. A sample of hydrogen exerts a pressure of 1.50 atmospheres at a temperature of 160 K. What pressure does the gas exert at 640 K?

_____ atm

7. A gas collected when the temperature is 7°C and the pressure is 140 kPa measures has a volume of 4 L. Calculate its volume at 60 kPa and 27°C.

_____ L

8. A 300 mL sample of a gas at a temperature of 400 K exerts a pressure of exactly one atmosphere. What pressure does the gas exert when the volume decreases to 200 mL and the temperature increases to 600 K?

_____ atm