



1. In science class a teacher explaining the relationship between temperature and volume, places a balloon with a volume of half a litre and a temperature of 25°C in an oven with a temperature of 200 degrees. What will the new volume of the balloon be?

(0.79 L)

2. While swimming around searching for his dad at a depth of 4 atmospheres, Nemo, after a night on the curry, lets a burp rip. With an initial volume of .02 litres, what volume will Nemo's burp occupy upon reaching the surface?

(0.08 L)

3. You have a 2.40 L container of air at STP. From out of nowhere, Bigfoot stomps on it, decreasing the container's volume down to 0.500 L and increasing the pressure to 8.00 atmospheres. How hot, in $^{\circ}\text{C}$, is the air in the container now?

(182 $^{\circ}\text{C}$)

4. What volume would 4.3 moles of hydrogen gas occupy at 45°C and 3.22 atm?

(34.86 L)



5. How many grams of oxygen gas are there in a 2.3 L tank at 7.5 atm and 24°C?

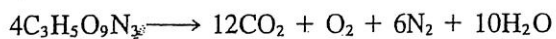
22.6g

6. 2.58 g of a gas has a volume of 3.97 L at 0.98 atm and 21°C. Determine the molecular weight of the gas.

16g/mol

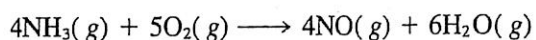
10 litres of Argon @ depth of 20 m. What is its mass?

60. Nitroglycerine has a density of 1.59 g/mL. It explodes to form several gases.



A sealed 1.00-mL container filled with nitroglycerine is detonated. Assuming standard temperature and assuming that the container would not break upon detonation, what is the pressure inside the container in atmospheres?

61. The following reaction takes place in a sealed 40.0-L container at a temperature of 120°C.



- When 34.0 g NH_3 reacts with 96.0 g O_2 , what is the partial pressure (in atm) of NO in the container?
- What is the total pressure (in atm) in the container?