

P T V
opposites

Warm up Gas Laws Quiz 2

1. According to the kinetic molecule theory, what is another way we express temperature?

(movement) Kinetic energy = T

2. What happens to the volume of a gas if pressure decreases? (temperature is constant)

P ↓, then V ↑ (increase)

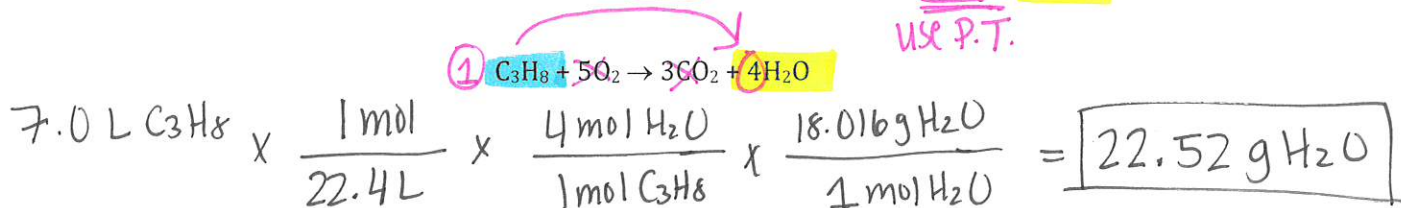
3. What happens to the temperature if volume increases? (pressure is constant)

V ↑, then T ↑ (increase)

4. What happens to the pressure if the volume increases? (temperature is constant)

V ↑, then P ↓ (decrease)

5. If the combustion reaction below uses 7.0 L of propane (C₃H₈) at STP, how many grams of water are formed?



6. If you have 0.56 mole of neon gas at 296 K and 1.5 atm, what volume would the gas occupy?

G: $n = 0.56 \text{ mol}$
 $T = 296 \text{ K}$
 $P = 1.5 \text{ atm}$

U: V

E: $PV = nRT$

S: $1.5(V) = 0.56(0.0821)(296)$
 $1.5(V) = 13.6008906$

9.07

S: $V = \text{units} \text{ L}$

units

7. A mixture of three gases, H₂O, He, and N₂, is at a total pressure of 4.5 atm. The partial pressure of H₂O is 1.68 atm and the partial pressure of helium is 1.3 atm. What is the partial pressure of nitrogen gas?

G: $P_T = 4.5 \text{ atm}$
 $P_1 = 1.68 \text{ atm}$
 $P_2 = 1.3 \text{ atm}$

U: P_3

E: $P_T = P_1 + P_2 + P_3$

S: $4.5 = 1.68 + 1.3 + P_3$

S: $P_3 = 1.52 \text{ atm}$

units