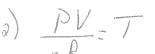
Gas Laws Packet #2 Ideal Gas Law Worksheet PV = nRT

Use the ideal gas law, "PV-nRT", and the universal gas constant R = 0.0821 L*atmto solve the following problems:

If pressure is needed in kPa then convert by multiplying by 101.3kPa / 1atm to get

R = 8.31 L*kPa/(K*mole)

1) If I have 4 moles of a gas at a pressure of 5.6 atm and a volume of 12 liters, what



is the temperature?

1) PV=nRT 2) PV=T 3) 5.6 2 tm x 12 L (203.6 K)

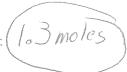
4 moles x 0.0821



If I have an unknown quantity of gas at a pressure of 1.2 atm, a volume of 31 2) liters, and a temperature of 87 °C, how many moles of gas do I have?

a)
$$n = \frac{PV}{RT}$$

1) PU= nRT 2) n = PU 3) 1.22 tm x 3/L = (1.3 moles)



3) If I contain 3 moles of gas in a container with a volume of 60 liters and at a temperature of 400 K, what is the pressure inside the container?

a)
$$P = \frac{nRT}{V}$$

1) PU = nRT 2) $P = \frac{nRT}{U}$ 3) 3 moles x 0.0821 x 400K (1.6 at n



4) If I have 7.7 moles of gas at a pressure of 0.0, and what is the volume of the container that the gas is in?

1) PV = nRT2) $V = \frac{nRT}{P}$ 3) $\frac{7}{6}$ 7 moles \times 0.082/ \times 329/ \times 1) $\frac{3}{7}$ 7 moles \times 0.09 2 km (2310.92)

$$V = \frac{nRT}{P}$$

If I have 17 moles of gas at a temperature of 67 °C, and a volume of 88.89 liters, what is the pressure of the gas? $17moles \times 0.0821 \times 340 \times (-5.3 \text{ ATM})$ $17moles \times 0.0821 \times 340 \times (-5.3 \text{ ATM})$ $17moles \times 0.0821 \times 340 \times (-5.3 \text{ ATM})$ $17moles \times 0.0821 \times 340 \times (-5.3 \text{ ATM})$

a)
$$P = \frac{nh}{h}$$

If I have an unknown quantity of gas at a pressure of 0.5 atm, a volume of 25 6)



- If I have 21 moles of gas held at a pressure of 78 atm and a temperature of 900 K, what is the volume of the gas? 1) PU= nRT
- 8) If I have 1.9 moles of gas held at a pressure of 5 atm and in a container with a volume of 50 liters, what is the temperature of the gas?

- PU= nRT 2) PV=T 3) 52Em x 50L = (1562.5K
- If I have 2.4 moles of gas held at a temperature of 97 °C and in a container with a

- volume of 45 liters, what is the pressure of the gas:

 1) PV = nRT2) $P = \frac{nRT}{1/2}$ 3) $\frac{\partial_{1}4moles}{45} \times \frac{\partial_{1}80}{45} \times \frac{\partial_{1}80}{1} \times \frac{\partial_{1}80$

 - 10) If I have an unknown quantity of gas held at a temperature of 1195 K in a container with a volume of 25 liters and a pressure of 560 atm, how many moles of gas do I have?

- i) PV = nRT ∂ $n = \frac{PV}{RT}$ 3) $H95 = \frac{560 \text{ atm} \times 25 \text{ L}}{(9.082) \times 1/95}$ moles
- - If I have 0.275 moles of gas at a temperature of 75 K and a pressure of 1.75 atmospheres, what is the volume of the gas?
- 1) PV = nRT 2) V = nRI
- 3) . 275 x 0,0821 x 75K (. 99C



- If I have 72 liters of gas held at a pressure of 3.4 atm and a temperature of 225 K. how many moles of gas do I have?

- 1) PV= nRT 2) PV = n 3) 3.4 2 Em x 72 L (13.2)
 RT = n 3) 0.821 x 225 K (moles