**Emergency PV = nRT practice!**

**Name_____**

**Period_____**

1. What pressure is exerted by 0.693 moles of oxygen in a 5665mL vessel at 18°C?

2. Carbon monoxide, a poisonous gas, has a formula of CO. How many moles of carbon monoxide occupies a volume of 0.445 L at 0°C and 850.torr?

3. What volume will $4.54 \times 10^{25}$ atoms of helium occupy at 1.05 atm and $25^{o}$C?

4. What is the pressure of 25.00 moles of methane at 50.0°C if it occupies a volume of 60.0L?

5. A 75.0 gram sample of argon is confined in a 3.1 L vessel. What is the pressure at 115°C.

6. What pressure will be exerted by 25 moles of $CO_2$ at a temperature of $25^{o}$C and a volume of 500 mL?

# Hints:

**Emergency PV = nRT practice!** KEY **Name**_____ **Period**_____

1. What pressure is exerted by 0.693 moles of oxygen in a 5665mL vessel at 18°C?

$P = \frac{nRT}{V}$ Can't use mL, °C

2. Carbon monoxide, a poisonous gas, has a formula of CO. How many moles of carbon monoxide occupies a volume of 0.445 L at 0°C and 850.torr?

$n = \frac{PV}{RT}$ Can't use °C torr

3. What volume will $4.54 \times 10^{25}$ atoms of helium occupy at 1.05 atm and 25°C?

$V = \frac{nRT}{P}$ can't use atoms, °C

4. What is the pressure of 25.00 moles of methane at 50.0°C if it occupies a volume of 60.0L?

$P = \frac{nRT}{V}$ can't use °C

5. A 75.0 ~~gram~~ mole sample of argon is confined in a 3.1 L vessel. What is the pressure at 115°C.

$P = \frac{nRT}{V}$ can't use

TYPO! SHOULD SAY 75.0 moles

# Answers:

**Emergency PV = nRT practice!**

Name_____

Period_____

1. What pressure is exerted by 0.693 moles of oxygen in a 5665mL vessel at 18°C?

$P = \frac{nRT}{V}$ $P = \frac{(.693\,mol)(0.0821\,\frac{L\,atm}{mol\,K})(291\,K)}{(5.665\,L)}$ $P = 2.92\,atm$

2. Carbon monoxide, a poisonous gas, has a formula of CO. How many moles of carbon monoxide occupies a volume of 0.445 L at 0°C and 850.torr?

$n = \frac{PV}{RT}$ $n = \frac{(1.12\,atm)(0.445\,L)}{(0.0821\,L\,atm)(273\,K)} = 0.0222\,mol$

3. What volume will $4.54 \times 10^{25}$ atoms of helium occupy at 1.05 atm and 25°C?

$V = \frac{nRT}{P}$ $V = \frac{(75.4\,mol)(0.0821\,\frac{L\,atm}{mol\,K})(298\,K)}{(1.05\,atm)}$

$V = 1760\,L$

4. What is the pressure of 25.00 moles of methane at 50.0°C if it occupies a volume of 60.0L?

$P = \frac{nRT}{V}$ $P = \frac{(25.00\,mol)(0.0821\,\frac{L\,atm}{mol\,K})(323\,K)}{(60.0\,L)}$

$P = 11.0\,atm$

5. A 75.0 gram sample of argon is confined in a 3.1 L vessel. What is the pressure at 115°C.

$PV = nRT$ $P = \frac{(75.0\,mol)(0.0821\,\frac{L\,atm}{mol\,K})(388\,K)}{(3.1\,L)}$ $P = 770\,atm$

6. What pressure will be exerted by 25 moles of $CO_2$ at a temperature of 25°C and a volume of 500 mL?

$P = \frac{(25\,mol)(0.0821\,\frac{L\,atm}{mol\,K})(298\,K)}{(0.500\,L)}$

$P = 1200\,atm$