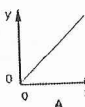
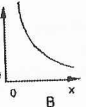
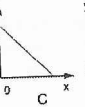
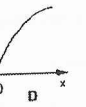


# Class Copy (leave in classroom)

Honors Chemistry Practice Final 2017

Name: \_\_\_\_\_ Date: \_\_\_\_\_

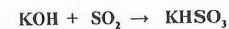
- Acetylene gas,  $C_2H_2$ , is used in welding because it generates an extremely hot flame when combusted with oxygen. How many moles of oxygen are required to react completely with 4.6 grams of acetylene? Use the balanced equation below:
 
$$2 C_2H_2 + 5 O_2 \rightarrow 4 CO_2 + 2 H_2O$$
  - 0.44 mol
  - 0.071 mol
  - $3.0 \times 10^2$  mol
  - 0.71 mol
- If 2.6 moles of  $PbCl_2$  react with excess  $K_2SO_4$ , how many moles of  $KCl$  will be produced? Use the unbalanced equation below:
 
$$\underline{\hspace{1cm}} PbCl_2 + \underline{\hspace{1cm}} K_2SO_4 \rightarrow \underline{\hspace{1cm}} PbSO_4 + \underline{\hspace{1cm}} KCl$$
  - 2.6 mol
  - 1.3 mol
  - 5.2 mol
  - $1.0 \times 10^3$  mol
- How many moles of sulfur dioxide gas will be produced by reacting 7.3 moles of hydrogen sulfide with excess oxygen according to the reaction below:
 
$$H_2S + O_2 \rightarrow SO_2 + H_2$$
  - 230 mol
  - 29 mol
  - 7.3 mol
  - 3.7 mol
- Suppose you have 35.0 grams of copper reacting with a silver nitrate solution. How many grams of silver can you make?
 
$$Cu + 2 AgNO_3 \rightarrow Cu(NO_3)_2 + 2 Ag$$
  - 59.4 grams
  - 20.6 grams
  - 3780 grams
  - 119 grams
- A sample of air has a volume of 550.0 mL at  $106^\circ C$ . At what temperature (in degrees Celsius) will its volume be 700.0 mL at constant pressure?
  - $134^\circ C$
  - $407^\circ C$
  - $209^\circ C$
  - $482^\circ C$
  - $755^\circ C$
- Which of the following conditions represents standard temperature and pressure?
  - $25^\circ C$ , 760 atm
  - 273K, 1.00atm
  - $25^\circ C$ , 760 torr
  - $0^\circ C$ , 101.3 torr
- Which of the following graphs below depicts the relationship between pressure and temperature?
 





- Find the mass in grams of 4.2 L of  $NH_3$  at standard temperature and pressure
  - 2.63g
  - 22.4g
  - 0.188g
  - 72.0g
  - 3.20g
- At what temperature will 41.6 grams  $N_2$  exert a pressure of 815 torr in a 20.0 L cylinder?
  - 1324K
  - 176K
  - 87.8K
  - 6.27K
  - 22.4K
- You have 25.00 mL of a 0.1000 M Kool-aid solution. How much water must be added to make a 0.02458 M solution?
  - 126mL
  - 101mL
  - 76mL
  - 25.0mL
  - 6.15mL
- When solid sodium is dropped into a flask containing chlorine gas, an explosion occurs and a fine powder of sodium chloride (salt) is produced. If you wanted to make 5.0 grams of salt, how many moles of chlorine gas would you need to add to excess sodium?
  - 0.043mol
  - 0.086mol
  - 3.0 mol
  - 6.0 mol

- Calculate the number of grams of water produced when 4.30 moles of propane,  $C_3H_8$ , reacts with excess oxygen according to the reaction below:
 
$$C_3H_8 + 5 O_2 \rightarrow 3 CO_2 + 4 H_2O$$
  310. grams
  - 77.5 grams
  - 19.4 grams
  - 0.239 grams

- In an experiment, 5.00 grams of carbon monoxide reacts with 5.00 grams of iron (III) oxide (molar mass = 159.7g) (molar mass = 28.01). What mass of iron metal will be produced?
 
$$Fe_2O_3 + 3CO \rightarrow 3CO_2 + 2Fe$$
  - 6.64 grams
  - 5.38 grams
  - 1.75 grams
  - 3.50 grams

- True or False, Consider the reaction :



Since the coefficients of the balanced chemical equation are all equal to 1, we know that exactly 1.0 gram of KOH will produce 1.0 gram of  $KHSO_3$ .

- True
- False

- Consider the balanced equation:  $4Al + 3O_2 \rightarrow 2Al_2O_3$   
What mole ratio would you use to calculate how many moles of oxygen gas were needed to react completely with 2.0 moles of Aluminum metal?

- $\frac{4 \text{ mol Al}}{3 \text{ mol } O_2}$
- $\frac{3 \text{ mol } O_2}{4 \text{ mol Al}}$
- $\frac{4 \text{ mol Al}}{2 \text{ mol } Al_2O_3}$
- $\frac{1 \text{ mol Al}}{2 \text{ mol } O_2}$

- The height of a barometer, which measures atmospheric pressure, reads 752 torr. What is this pressure in atmospheres?

- 1.01 atm
- 0.752 atm
- 0.989 atm
- 479 atm
- 0.660 atm

- Use the kinetic molecular theory of gases to predict what would happen to a closed sample of a gas whose temperature increased by a factor of 2 while its volume decreased by a factor of 2.

- Its pressure would decrease
- Its pressure would increase
- Its pressure would hold constant
- The number of moles of the gas would decrease
- The average kinetic energy of the molecules of the gas would decrease

- A weather balloon at Earth's surface has a volume of 4.00 L at  $31^\circ C$  and 755 mm Hg. If the balloon is released and the volume reaches 4.08 L at 728 mm Hg, what is the temperature in Kelvin?

- 30.5K
- 309K
- 299K
- 404K

- You are holding two balloons of equal volume at 1.00atm and 273K. One balloon contains 22.4g of argon. The other balloon contains neon. What is the mass of neon in the balloon?

- 22.4g
- 0.561g
- 0.0278g
- 11.3g
- $6.02 \times 10^{23}$  g

- What volume of 0.550M solution of magnesium hydroxide can be made with 20.6g of magnesium hydroxide?

- 0.353L
- 1.56L
- 0.642L
- 0.907L
- 0.194L

- How many milliliters of 13.0M sulfuric acid are needed to prepare 600.0mL of 3.50M sulfuric acid solution?

- 16200mL
- 600.0mL
- 13.0mL
- 0.758mL
- 162mL

- Phenolphthalein is an indicator used when titrating an acid with a standard solution of base. What color is phenolphthalein in acidic solution?

- Clear
- Pink