

Name \_\_\_\_\_

Date \_\_\_\_\_

Due Date \_\_\_\_\_

Mark \_\_\_\_\_/18

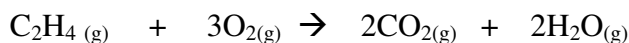
**Correct and Hand in Again by** \_\_\_\_\_

## Chemistry 12

### Hand In Assignment #1-Calculating Rates

All work must be shown. Include proper units in your work and in your answers. Answers need to be in the correct number of significant digits as justified by the data.

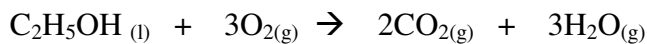
1. Consider the reaction:



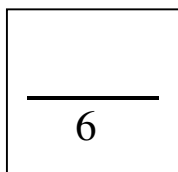
At certain conditions 0.26 moles of  $\text{O}_2$  is consumed in 3.0 minutes.  
What is the rate of production of  $\text{CO}_2$  in g/s ? (3 marks)

Answer \_\_\_\_\_

2. Consider the reaction:

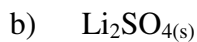
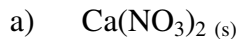


At certain conditions 13.44 L of  $\text{CO}_2$  is produced in 180.0 s at STP.  
What is the rate of consumption of  $\text{C}_2\text{H}_5\text{OH}$  in g/min ? (3 marks)

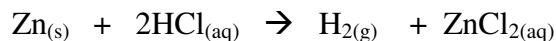


Answer \_\_\_\_\_

3. Complete balanced **dissociation** equations for the following compounds: (3 marks)



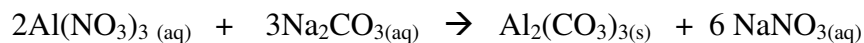
4. a) Write the following equation in **complete ionic** form: (2 marks)



b) Write the same equation in **net-ionic** form: (1 mark)

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5. a) Write the following equation in **complete ionic** form: (2 marks)



b) Write the same equation in **net-ionic** form (1 mark)

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6. Given the reaction:  $\text{Al}_{(\text{s})} + 3\text{Cl}_{2(\text{g})} \rightarrow 2 \text{AlCl}_{3(\text{s})}$

It is found that chlorine is consumed at a rate of 0.2485 g/s. Calculate the total mass of  $\text{AlCl}_3$  produced if this rate is maintained for 3.00 minutes. (3 marks)