Grossmont College Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chemistry 102, Spring 2017

Quiz 4A (21 points) Date: \_\_\_\_\_\_\_\_\_\_\_\_

1. (5 points) The potential energy diagram is for an **ENDOTHERMIC** / **EXOTHERMIC** reaction. *(circle one)*

 Label the **reactants**, the **products**, **activation energy** (***Eact*),** and **change in energy** (**Δ*E***).

potential

 energy

reaction progress



1. (4 points) For each scenario below, state which factor (temperature change, change in amount, the presence of a catalyst) is being changed to alter the reaction rate.
2. Firewood is chopped into small pieces to make lighting a fire easier. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. A black powder called manganese dioxide causes hydrogen peroxide to decompose faster than normal. The powder is not used up during the reaction.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Food left in the fridge lasts longer than food left out. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Coal dust can cause explosions. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. (4 points) Label the four **functional groups** on this molecule including acetals, hemiacetals



1. (8 points) For each reaction, draw the expected product. For alkene addition pay attention to Markovnikov’s rule for unsymmetrical reagents.





