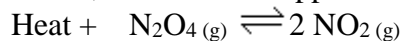


Name \_\_\_\_\_

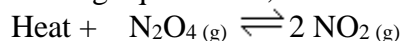
### Equilibrium Shift Problems using Le Châtelier's Principle

For all problems show the stress, shift and final. You may use arrows to show whether it increases or decreases.

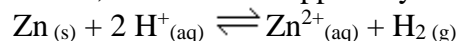
1. Given the following equilibrium, what would happen if the amount of  $\text{NO}_2$  increased?



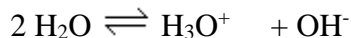
2. Given the following equilibrium, what would happen if it is heated?



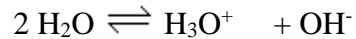
3. Given the following equilibrium, what would happen if you decrease the amount of  $\text{H}^+$ ?



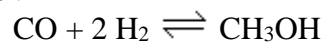
4. Given the following equilibrium, what would you expect to happen if you decrease the hydroxide concentration?



5. Given the following equilibrium, what would you expect to happen if you increase the hydronium concentration?



6. Given the following equilibrium, what would you expect to happen if you decrease the amount of CO?



7. Write equilibrium expression for the following reactions:

