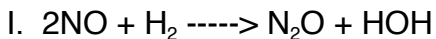
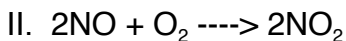


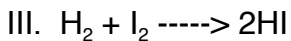
## Chemistry Reaction Rate Problems



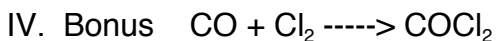
[NO]	[H <sub>2</sub> ]	Rate	
M	M	M/min	
0.150	0.80	0.500	$\text{Rate} = \frac{28 [\text{NO}]^2 [\text{H}_2]^1}{\text{M}^2 \text{min}}$ 2nd order in NO, 1st order in H <sub>2</sub> 3rd order overall
0.075	0.80	0.125	
0.150	0.40	0.250	



[NO]	[O <sub>2</sub> ]	Rate	
M	M	M/min	
0.015	0.050	0.080	$\text{Rate} = \frac{7100 [\text{NO}]^2 [\text{O}_2]^1}{\text{M}^2 \text{min}}$ 2nd order in NO, 1st order in O <sub>2</sub> 3rd order overall
0.030	0.100	0.640	
0.030	0.050	0.320	



[H <sub>2</sub> ]	[I <sub>2</sub> ]	Rate	
M	M	M/min	
0.20	0.30	0.20	$\text{Rate} = \frac{11 [\text{H}_2]^1 [\text{I}_2]^2}{\text{M}^2 \text{min}}$ 1st order in H <sub>2</sub> , 2nd order in I <sub>2</sub> 3rd order overall
0.60	0.30	0.60	
0.20	0.60	0.80	



[CO]	[Cl <sub>2</sub> ]	Rate	
M	M	M/min	
2.00	2.00	0.015	$\text{Rate} = \frac{2.65 \times 10^{-3} [\text{CO}]^1 [\text{Cl}_2]^{3/2}}{\text{M}^{2.5} \text{min}}$
4.00	2.00	0.030	
2.00	4.00	0.04242...	