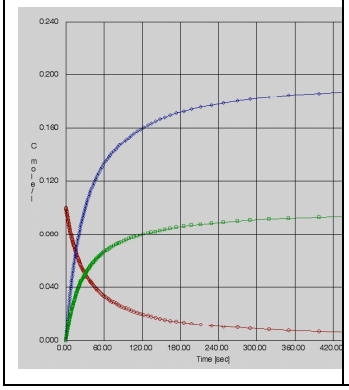
| Chemistry 106<br>Fundamental Chemistry II | Kinetics Practice<br><br>Web Graphs<br><br>Answers |
|---|---|




# Graph #1

Stoichiometry
$A \rightarrow B$

Initial Rate

for reactant: $-\Delta[A]/\Delta t = -(0.120 - 0.200\ M)/(1.0 - 0.0\ sec) = 0.080\ M/sec$

Rate Constant

$0.080\ M/sec = k\ (0.200\ M)^1$ $\quad\quad$ $k = 0.40\ sec^{-1}$

# Graph #2

Stoichiometry

$A \rightarrow 2\ B + C$

Initial Rate

for reactant: $-\Delta[A]/\Delta t = -(0.000 - 0.100\ M)/(30.0 - 0.0\ sec) = 3.33 \times 10^{-3}\ M/sec$

Rate Constant

$3.33 \times 10^{-3}\ M/sec = k\ (0.100\ M)^0 = k$

# Graph #3

Stoichiometry
$2A \rightarrow B$

Initial Rate

for reactant: $-{}^1/_2\Delta[A]/\Delta t = -{}^1/_2\ (0.075 - 0.100\ M)/(13.3 - 0.0\ sec) = 9.4 \times 10^{-4}\ M/sec$

Rate Constant

$9.4 \times 10^{-4}\ M/sec = k\ (0.100\ M)^2$ $\quad\quad$ $k = 0.094\ M^{-1}sec^{-1}$