

1. A reaction ($A + 2B \rightarrow C$) has the following rate data:

$[A]_0/\text{M}$	$[B]_0/\text{M}$	$\text{Rate}_0/\text{M s}^{-1}$
0.1523	0.0115	1.45
0.3051	0.0115	3.00
0.3051	0.0232	5.99

- Calculate the rate law for this reaction.
- Find the rate constant with the units.
- What is the rate of this reaction if $[A] = 0.1000 \text{ M}$ and $[B] = 0.0150 \text{ M}$?

2. The reaction



has the following data taken at 30.0 C.

Exp #	$[A] \text{ (M)}$	$[B] \text{ (M)}$	Initial Rate (M s^{-1})
1	0.1500	1.20	3.58×10^{-3}
2	0.1963	1.20	4.09×10^{-3}
3	0.1963	1.33	5.56×10^{-3}

- Determine the form of the rate law ($\text{rate} = k [A]^m [B]^n$).
- Determine the value of the rate constant (including units).