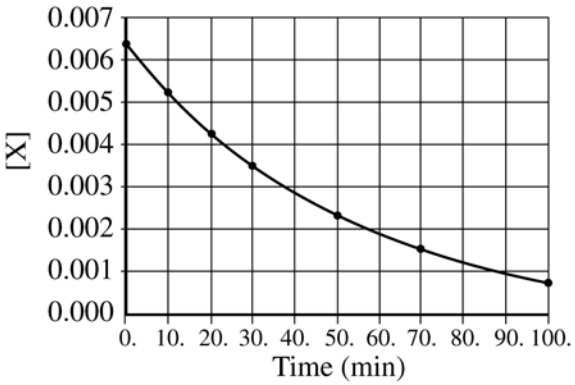
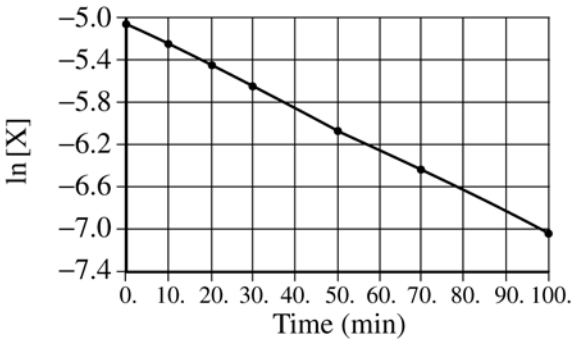
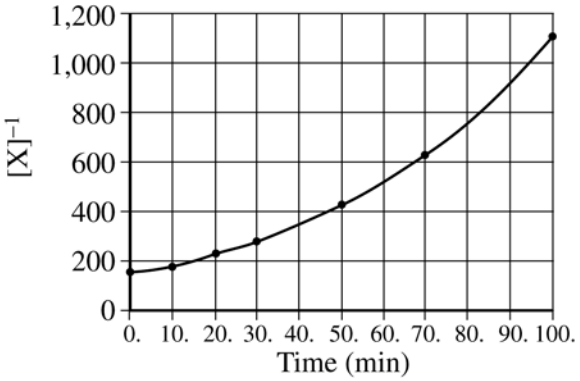
$$X \rightarrow 2\,Y + Z$$

3. The decomposition of gas X to produce gases Y and Z is represented by the equation above. In a certain experiment, the reaction took place in a 5.00 L flask at 428 K. Data from this experiment were used to produce the information in the table below, which is plotted in the graphs that follow.

Time (minutes)	[X] (mol L^{-1})	ln [X]	$[X]^{-1}$ ($L\ mol^{-1}$)
0	0.00633	–5.062	158
10.	0.00520	–5.259	192
20.	0.00427	–5.456	234
30.	0.00349	–5.658	287
50.	0.00236	–6.049	424
70.	0.00160	–6.438	625
100.	0.000900	–7.013	1,110







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