Practice QUIZ

(1) Considering the reaction $A + 2B \rightarrow$ Products, and the following data, determine the rate law

Run #	[A]	[B]	$[A]_{1/2}$
I	0.1	0.1	10 min
II	0.1	0.2	5 min
III	0.2	0.1	5 min

(2) The reaction $A + B \rightarrow$ Products has an activation energy of 11.0 kJ/mol. Assuming the Arrhenius equation holds, how much faster is the reaction at 100 °C than at 0 °C?

(3) For the reaction $A + B \rightarrow$ products $\Delta G^{\ddagger}$ at 298 K is 15 kJ/mol. According to activated complex theory, what is the rate constant for this reaction at 298 K? (Recall $f = \frac{k_b T}{h}$)

(4) Give the general mechanisms for S_N1, S_N2, E1 and E2 reaction steps.