Marks 3

- Consider the reaction $A(g) + B(g) + C(g) \rightarrow D(g)$ for which the following data were obtained at 25 °C.

Experiment	Initial [A] (mol L^{-1})	Initial [B] (mol L^{-1})	Initial [C] (mol L^{-1})	Initial rate (mol L^{-1} s^{-1})
1	0.0500	0.0500	0.1000	6.25×10^{-3}
2	0.1000	0.0500	0.1000	1.25×10^{-2}
3	0.1000	0.1000	0.1000	5.00×10^{-2}
4	0.0500	0.0500	0.2000	6.25×10^{-3}

Write the rate law and calculate the value of the rate constant.

THE REMAINDER OF THIS PAGE IS FOR ROUGH WORKING ONLY.