

2005 AP[®] CHEMISTRY FREE-RESPONSE QUESTIONS (Form B)

- (a) How many moles of X were initially in the flask?
- (b) How many molecules of Y were produced in the first 20. minutes of the reaction?
- (c) What is the order of this reaction with respect to X ? Justify your answer.
- (d) Write the rate law for this reaction.
- (e) Calculate the specific rate constant for this reaction. Specify units.
- (f) Calculate the concentration of X in the flask after a total of 150. minutes of reaction.

S T O P

**If you finish before time is called, you may check your work on this part only.
Do not turn to the other part of the test until you are told to do so.**