

Paper S15 "Chaos" 2006

17 candidates, mean 32.7, SD 8.42

This paper was much better balanced than previous years, which were probably too hard. The exercise of an independent examiner going through the questions definitely improved the paper considerably. Overall, candidates' scripts reflected this, with everyone making a plausible attempt at at least one question.

Q1: 15 attempts, mean 14.8, SD 5.3

A popular question and generally well answered, with the exception of a few candidates who failed to remember basic constraints as populations being non-negative. Two candidates produced near-perfect answers to all sections, including the correct first-order expression for the death rate.

Q2: 8 attempts, mean 16.25, SD 4.30

Reasonably popular, bi-modal response, depending on whether people managed to sketch the 2-cycles and 3-cycles correctly. They had been shown these in the lectures, but with hindsight it might have been better to have shown a plot of the tent-map 2-cycle at least to make sure more got off in the right direction. Once the forms of the cycles were sketched, the rest of the question was straightforward, giving again a couple of near-perfect answers.

Q3: 5 attempts, mean 19.2, SD 4.49

Least popular question (candidates are still suspicious of stochastic processes), but generally well executed. Usually the second question attempted, so candidates who did not complete it appear simply to have run out of time.

Q4: 6 attempts, mean 18, SD 4.24

Reasonably popular with a broad spread of responses, with many candidates not attempting the latter part of the question: again, this appears to be a question of time. It might have been better to have left out the part on finding fixed points, which was done correctly by pretty much everyone and so simply took up time, to encourage candidates to get on to the meatier parts of the question. But without the bit they knew they could do, perhaps fewer would have embarked on it. A couple of near-perfect answers.

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