

## PMA101R — Response to checker's comments

As you say, there is no real difference between Section A and Section B. This was also the case in the January exam, and in the mock exam that I distributed previously. At the beginning of last semester I announced that there would be two sections, but the planned distinction between them did not work well when I came to write the exam, so I abandoned it.

- A3 I used  $\log$  for  $\log_e$  systematically in the course.
- A4 To do this by calculator one has to know that  $\log_{1000}(\sqrt{10}) = \log(\sqrt{10})/\log(1000)$ . Two marks is a bit generous for that, but not absurdly so. I would give one mark for a decimal approximation.
- A6 The mark scheme is meant to be interpreted in the way that you suggest, although I did not say so explicitly. All similar problems in the lecture notes etc. introduce the symbol  $u = e^x$ , so it is natural to write the solution in this way.
- A7 I gave this an extra mark, and also specified that  $p, q \neq 0$ .
- A8 The solution has been corrected.
- A10 I moved the “[2]” to the penultimate line, to indicate that it is acceptable as a final answer. The alternative form on the last line is merely recorded for marking convenience. I also moved a mark to A9.
- A11 The method indicated is one of the few non-A-level topics that I attempted to teach, so I prefer to write the model solution that way. It is true, however, that many students will just integrate by parts. I have included this as an alternative in the solutions. The lecture notes have a careful discussion of constants of integration; doubtless the students absorbed only the punchline, that I did not expect them to be included.
- A12 I added a mark for solving the simultaneous equations.
- A13 I left this as it was, but reduced the credit by two marks.
- A14 I modified the question to ask explicitly for the determinant, and added a hint suggesting that students use the cofactor method for the inverse. With this guidance, I think that the denominator should not cause trouble. I also added an extra mark.
- B2 This is identical to a question on the original paper, for which full solutions are on the web. Nonetheless, I have added a hint that the double angle formulae are relevant.
- B3 I reduced the final two marks to one mark.
- B5 There are various ways to save work by some initial row or column operations, and the students have been shown a number of examples of that approach. I am of course happy to give full credit for any such method.