



## STEP II, 2015, Q9 EC

### Question 9

This was the most popular of the Mechanics questions, but many candidates struggled to achieve good marks. In the first section many candidates had difficulties in finding the correct angles to work with – a clear diagram is very helpful in tackling this problem. Candidates often introduced new notation to help with the steps toward the solution, but this was sometimes poorly chosen and made solution of the problem more difficult. Explanations of the methods being used were also often poor – in particular the triangles being used at different stages were not clearly identified. There were also a number of errors when taking moments or when recalling exact values of the sine and cosine functions. There were a number of good attempts at the second part of the question, but a large number of candidates calculated the kinetic energy incorrectly.



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