

STEP III, 2015 , Q1 EC

1. This was the most popular question, being attempted by 85% of candidates, it was however only moderately successful although a number achieved full marks. Quite often, candidates ignored the helpful approach suggested by the LHS of the first required result, though, of course, it was possible to start from the first defined integral and achieve the same result. Many needlessly lost marks through omitting fairly straightforward steps such as the final evaluation in the last part of the question and failing to substantiate the simplified form of the result of part (i). Some got very carried away with tan or sinh substitutions in part (i), usually unsuccessfully and leading to monstrous amounts of algebraic working. A few failed to change the limits of integration in [part (ii)].



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