

STEP III, 2016 , Q4 EC

Question 4

Very slightly more popular than question 2 with four fifths attempting it, they did so with slightly less success. The first part of the question, being well signposted, was pretty well attempted, although there was some very poor notation for limit arguments as N was commonly taken to equal infinity. In part (ii), it was quite common for candidates to write the expression for $\text{sech}(ry)$ in terms of positive powers of exponentials which made attempts to apply (i) invalid. Few candidates fully simplified the final result, and prior to that, many did not handle the positive and negative parts of the sum correctly with some just doubling the sum from 1 to infinity.



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