STEP III 2010 Question 2 — Examiner Report

The most popular question, the scoring rate was very similar to the first. Quite a few candidates did not take the hint provided in part (i) to express $\cosh a$ in terms of exponentials in order to perform the integration. However, apart from those that did not correctly substantiate the given result, many handled the partial fractions and exponentials well, and quite a number dealt with the infinite limit impressively. Problems arose later in the question with manipulating logarithms and the instruction to express answers in terms of hyperbolic functions was either overlooked or beyond their capacity.