

STEP III, 2014 , Q2 EC

2. This was only marginally less popular than question 1, but was the most successfully attempted with a mean of two thirds marks. Most that attempted the question were able to do the first two parts easily, but could not find a suitable substitution to do the last part. In about a tenth of the attempts, a helpful substitution was made in part (iii) which then usually resulted in successful completion of the question. Modulus signs were often ignored, or could not be distinguished from usual parentheses, and the arbitrary constant, even though it appeared in the result for part (i), was frequently overlooked. A few did not use the correct formulae for $\cosh 2x$, instead resorting to the trigonometric versions. A handful of candidates attempted partial fractions in the last part having correctly factorised the quartic, but this did not use the previous parts as instructed.



NextStepMaths.com

To view mark schemes, fully worked solutions and examiner's comments, and for more details about tutoring and other services offered, go to [NextStepMaths.com](https://www.NextStepMaths.com)