

## STEP III, 2019, Q7 EC

### Question 7

Attempted by two thirds, the mean score was only about one third marks. Part (i) was not very well answered with many appearing to guess one or both of the solutions without managing to factorise, or equivalent. By contrast, part (ii) (a) was generally well-answered. Most candidates saw how to do this correctly, though a few tried to treat it as a polynomial in  $y$  and take that discriminant which got them nowhere. In part (b), most candidates did not realise what was expected of them so, for example, many wrote  $x \rightarrow \infty, y \rightarrow \infty$  or found the  $x$  and  $y$  intercepts. Almost all candidates saw what was needed for part (c), however, many made small algebraic errors or didn't check all the cases; the most common error was failure to eliminate the origin. The sketch was generally badly answered, often owing to errors in previous parts or failure to use correctly the information already obtained. Candidates did appreciate what was needed for part (iii) and did this well.



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