



## STEP III, 2007 Q1 EC

1. This question was popular. Many candidates did not simplify their first expression into the symmetrical form which made it harder for them to spot the use of the sums and products of roots results. A common slip was to make a 1 by default which also obscured what was going on. Most struggled to take the given equation requiring solution and produce a quartic equation in  $t$  ( $\tan \theta$ ), some producing a quartic equation in  $\cos \theta$ , and somehow expecting to use the earlier results.



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