

STEP III, 2009 Q7 EC

7. Approximately two thirds of the candidates attempted this, earning roughly half marks in doing so. Part (i) and finding the three expressions for P_0 , P_1 & P_2 from part (ii) largely went well. The result involving P_{n+1} saw most falling by the wayside, especially those who attempted it by induction. Quite a few candidates did score all but two marks in proving that P_n was a polynomial of degree n or less, but not appreciating that there was still something to do regarding the leading term.



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