Proof – 2022 GCE Pure Core 2 Further Math A Y541

1. June/2022/Paper_ Y541/01/No.4

In this question you must show detailed reasoning.

Determine the smallest value of n for which $\frac{1^2+2^2+...+n^2}{1+2+...+n} > 341$. **[4]**

2. June/2022/Paper_ Y541/01/No.8

In this question you must show detailed reasoning.

It is given that $\sum_{r=k}^{98} \frac{5r+2}{r(r+1)(r+2)} = \frac{20539}{34650}$ for some k.

Determine the value of k. **[7]**