4 A sequence has terms $u_1, u_2, u_3, \ldots$ defined by $u_1 = 2$ and $u_{n+1} = 1 - \frac{1}{u_n}$ for $n \geqslant 1$.

(a) Find the values of u_2, u_3 and u_4. **[2]**

(b) Describe the behaviour of the sequence. **[1]**

(c) Given that $\sum_{n=1}^{k} u_n = 73$, determine the value of k. **[3]**