In a mountain resort, a cliff is going to be set up to create a climbing site.
Two businesses A and B have been contacted and made the following offers:
Business A: The first metre to be set up, costs 20 £, and each extra metre costs 5 £ more than the previous one.
Business B: The first metre to be set up, costs 20 £, and each extra metre costs 10 % more than the previous one.

Let $u_n$ be the price of the $n$th metre to be set up and $S_n$ be the price of the equipment of a cliff $n$ metres high by business A.
Let $v_n$ be the price of the $n$th metre to be set up and $R_n$ be the price of the equipment of a cliff $n$ metres high by business B.

1. a. Give $u_1, u_2, u_3$.
   b. Give a recursive rule for $u_n$. What is the nature of the sequence $u_n$? Give an explicit rule for $u_n$.
   c. Give $S_1, S_2, S_3$. Write $S_n$ in terms of $u_n$. What can you say about $S_n$? Write $S_n$ in terms of $n$.

2. a. Give $v_1, v_2, v_3$. Round your result to the nearest pound.
   b. Give a recursive rule for $v_n$. What is the nature of the sequence $v_n$? Give an explicit rule for $v_n$.
   c. Give $R_1, R_2, R_3$. Write $R_n$ in terms of $v_n$. What can you say about $R_n$? Write $R_n$ in terms of $n$.

3. What is the price to set up a cliff 50 metres high by the two businesses? Round to the nearest pound.
4. Figure out using your graphing calculator when Business A is more interesting than Business B.