THEME : Sequences

Please do not write on the subject paper and don't forget to give back the examination paper at the end of the test.

Your room is too cold so you decide to adjust the thermostat.
The current temperature of the room is 60°F. In an attempt to get warmer, you increase the temperature by 10% every hour until you get to a comfortable temperature.

We decide to model this by a sequence (u_n). So we label n the number of times the temperature is increased and u_n the temperature after n increases. So $u_1 = 60$

1. What sort of sequence is it ? Give its characteristics.

2. Give the formula of u_n in terms of n.

3. The comfortable temperature is 78 °F.

    How long does it take to reach this temperature ?

4. To convert Fahrenheit degrees into Celsius degrees, subtract 32 then divide by 1.8 .

    So what are the temperatures in °C first in the cool room and then in the comfortable

    room ?