1. (3 Points)
Find the explicit formula for the exponential population growth described by the table below.

<table>
<thead>
<tr>
<th>Time</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>2</td>
<td>6</td>
<td>18</td>
<td>54</td>
<td>...</td>
</tr>
</tbody>
</table>

The form of exponential growth is $N_t = N_0 \cdot R^t$. The initial population is given to be 2 at time $t = 0$. Note that the population triples every time step, so $R = 3$.

$$N_t = 2 \left(3^t\right)$$

2. (4 Points)
Use recurrence relation $a_{n+1} = \frac{(2 \cdot a_n)}{3}$, $a_1 = 3$ to write the first four terms of sequence $\{a_n\}$.

- $a_1 = 3$
- $a_2 = \frac{2 \cdot 3}{3} = 2$
- $a_3 = \frac{2 \cdot 2}{3} = \frac{4}{3}$
- $a_4 = \frac{2 \cdot (4/3)}{3} = \frac{8}{9}$