Summary: you can start exponential growth problems by using:

\( f(t) = A \cdot e^{kt} \) (method used in textbook)

or

\( f(t) = A \cdot b^t \) (not method used in textbook)

You might find that tutors in MLC use both. This is why the explanation.

Finally, since we used \( f(t) = A \cdot e^{kt} \) for this problem in the special assignment, I will start with \( f(t) = A \cdot b^t \), where \( b = e^k \)

<table>
<thead>
<tr>
<th>Year</th>
<th>t = 0</th>
<th>t = 12</th>
<th>t = 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>100</td>
<td>150</td>
<td>?</td>
</tr>
</tbody>
</table>

\[ g(t) = A \cdot b^t \]
\[ a + t = 0 \quad g(t) = 100 \]
\[ 100 = A \cdot b^0 = A \cdot 1 = A \] so \( A = 100 \)

so for

\[ g(t) = 100 \cdot b^t \] use \( t = 12 \) to find \( b \).
\[ a + t = 12 \quad g(t) = 150 \]

\[ 150 = 100 \cdot b^{12} \] (**5**)