Assume the firm you work for is analyzing whether to expand its operations by building a new manufacturing facilities. Your boss has asked you to check a few numbers by using the following information to determine the incremental unlevered net income and free cash flow for the new facility both today and four years from today.

Note: You only need to set up all the appropriate equations and fill in the correct numbers. You don’t have to solve anything.

The new facility will require a total investment of $118 million. Of this total, $60 million would be spent today and $58 million would be spent a year from today. Depreciation on the new facility will be determined using the 10-year MACRS class and would begin a year from today. The new facility will be built on land purchased five years ago for $10 million which could be sold today for $12 million. Market research to determine whether demand will be sufficient to support the new factory cost $3 million. Of this total, $2 million was paid up front a year ago and the balance of $1 million is due today.

Sales associated with the new facility is estimated to equal $145 million a year from today, $142 million two years from today, $148 million three years from today, $151 million four years from today, and $158 million five years from today. Cost of Goods Sold are expected to equal 45% of revenue and fixed selling and administrative costs are expected to equal $52 million per year. Your firm’s marginal tax rate equals 35%.

The incremental working capital (in millions) associated with the new facility is expected to have the following values (Note: t = 0 is today, t = 1 is one year from today, t = 2 is two years from today, t = 3 is three years from today, etc):

<table>
<thead>
<tr>
<th></th>
<th>t = 0</th>
<th>t = 1</th>
<th>t = 2</th>
<th>t = 3</th>
<th>t = 4</th>
<th>t = 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>0</td>
<td>9.2</td>
<td>9.7</td>
<td>11.7</td>
<td>10.2</td>
<td>8.4</td>
</tr>
<tr>
<td>A/R</td>
<td>0</td>
<td>277.4</td>
<td>294.5</td>
<td>224.2</td>
<td>269.7</td>
<td>342.7</td>
</tr>
<tr>
<td>Inventory</td>
<td>0</td>
<td>20.2</td>
<td>23.1</td>
<td>15.2</td>
<td>20.6</td>
<td>26.6</td>
</tr>
<tr>
<td>A/P</td>
<td>0</td>
<td>40.6</td>
<td>48.2</td>
<td>38.6</td>
<td>48.9</td>
<td>45.6</td>
</tr>
</tbody>
</table>

The facility would be funded with cash and by borrowing $75 million from Bank of America at an annual interest rate of 4.5% per year.

\[
\begin{align*}
\text{FCF}_0 &= O + O - CE_0 - O \\
CE_0 &= LD + (12 - (12 - 10)(0.35)) \\
\text{UNI}_4 &= (151 - 0.45(151) - 52 - (1152)(118))(1 - 0.35) \\
\text{FCF}_4 &= \text{UNI}_4 + (1152)(118) - O - \Delta NWC \\
\Delta NWC &= NWC_4 - NWC_3 \\
NWC_4 &= 10.2 + 269.7 + 20.6 - 48.9 \\
NWC_3 &= 11.7 + 224.2 + 15.2 - 38.6
\end{align*}
\]