<table>
<thead>
<tr>
<th>Equation</th>
<th>Repetition</th>
<th>Root(s)</th>
<th>Types of Roots</th>
<th>Characteristic Polynomial</th>
<th>Differential Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(y(t) = C_1 \cos(t) + C_2 \sin(t) + C_3 \cos(2t) + C_4 \sin(2t))</td>
<td>Complex</td>
<td>(r = \frac{1}{2} \pm \frac{1}{2}i)</td>
<td>Real</td>
<td>(p(z) = -z^2 + 2z - 1)</td>
<td>(y'' + 2y = 0)</td>
</tr>
<tr>
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<tr>
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<tr>
<td>(y(t) = C_1 e^{-t} + C_2 e^{2t})</td>
<td>Simple</td>
<td>(r = -1)</td>
<td>Real</td>
<td>(p(z) = -z^2 + 2z - 1)</td>
<td>(y'' + 2y = 0)</td>
</tr>
</tbody>
</table>

Please fill in the chart below:

Solving Higher Order Linear Homogeneous Equations

In-Class Activity: Solutions