(a) \( x'' + 2x' + 4x = 0 \) with initial conditions: 
\[
\begin{align*}
g(x(0)) &= 3, \\
g'(x(0)) &= -1 \\
g(x(\pi/2)) &= 1, \\
g'(x(\pi/2)) &= 4.
\end{align*}
\]
(b) \( x'' + 2x' + 4x = 0 \) with initial conditions: 
\[
\begin{align*}
x(0) &= 0, \\
x'(0) &= 1.
\end{align*}
\]