1. Consider the system of differential equations
\[
\begin{align*}
\frac{dx_1(t)}{dt} &= -6x_2(t) \\
\frac{dx_2(t)}{dt} &= x_1(t) + 5x_2(t)
\end{align*}
\]
Find the general solution for \(x_1(t), x_2(t)\) as a function of \(x_1(0), x_2(0)\).
Given \(x_1(0) = -1\) and \(x_2(0) = 1\), find the solutions explicitly and compute
\[
\lim_{t \to +\infty} \frac{x_1(t)}{x_2(t)}, \quad \lim_{t \to -\infty} \frac{x_1(t)}{x_2(t)}
\]

2. Consider the system of differential equations
\[
\begin{align*}
\frac{dx_1(t)}{dt} &= 2x_1(t) + x_2(t) \\
\frac{dx_2(t)}{dt} &= -2x_1(t)
\end{align*}
\]
Find the general solution for \(x_1(t), x_2(t)\) as a function of \(x_1(0), x_2(0)\).
Given \(x_1(0) = 1\) and \(x_2(0) = 1\), find the solutions explicitly