1. (5 points) Suppose that

\[ u(t) = \begin{cases} 
0 & \text{if } t < 0, \\
1 & \text{if } 0 \leq t \leq 1, \\
0 & \text{if } t > 1. 
\end{cases} \]

Sketch a graph of \( g(t) = -2u\left(\frac{1}{2}(t + 4)\right) \) on the axis below.

2. (5 points) If \( f(x) \) has domain \([-3, 8]\) and range \([2, 12]\), find the domain and range of the function

\[ g(x) = \frac{1}{3}f(5(x - 1)) - 2 \]