Problem 6

In each of Problems 1 through 6, sketch the graph of the given function on the interval $t \geq 0$.

\[
g(t) = (t - 1)u_1(t) - 2(t - 2)u_2(t) + (t - 3)u_3(t)
\]

Solution

This function can be written in terms of the more familiar Heaviside function, $H(t)$, which is defined to be 1 if $t > 0$ and 0 if $t < 0$.

\[
g(t) = (t - 1)H(t - 1) - 2(t - 2)H(t - 2) + (t - 3)H(t - 3)
\]