Problem 1

In each of Problems 1 through 4, sketch the graph of the given function. In each case determine whether \( f \) is continuous, piecewise continuous, or neither on the interval \( 0 \leq t \leq 3 \).

\[
f(t) = \begin{cases} 
  t^2, & 0 \leq t \leq 1 \\
  2 + t, & 1 < t \leq 2 \\
  6 - t, & 2 < t \leq 3 
\end{cases}
\]