Problem 10

In each of Problems 7 through 12:

(a) Sketch the graph of the given function.

(b) Express $f(t)$ in terms of the unit step function $u_c(t)$.

$$f(t) = \begin{cases} 
  t^2, & 0 \leq t < 2, \\
  1, & t \geq 2.
\end{cases}$$