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 $u_c(t)$.

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