

Problem 8

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 $u_c(t)$.

$$f(t) = \begin{cases} 1, & 0 \leq t < 1, \\ -1, & 1 \leq t < 2, \\ 1, & 2 \leq t < 3, \\ -1, & 3 \leq t < 4, \\ 0, & t \geq 4. \end{cases}$$