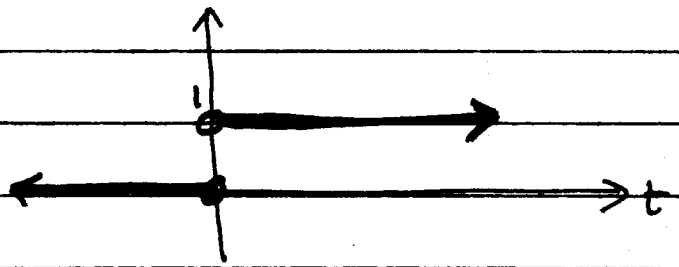
7.6 Transformations of discontinuous & periodic Functions

Suggested HW: odds 1–39

The Heaviside function is defined by

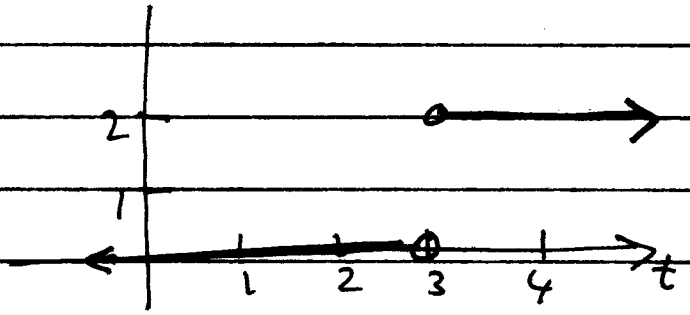
$$H(t) = \begin{cases} 0 & \text{if } t<0 \\ 1 & \text{if } t>0. \end{cases}$$

$H(t) = u(t)$ is called (also) the unit step function.



Example Plot $y = 2H(t-3) = \begin{cases} 2 & \text{if } t-3>0 \\ 0 & \text{if } t-3<0 \end{cases}$

$$= \begin{cases} 2 & \text{if } t>3 \\ 0 & \text{if } t<3 \end{cases}$$



In general, $H(t-c) = \begin{cases} 1 & \text{if } t>c \\ 0 & \text{if } t<c \end{cases}$