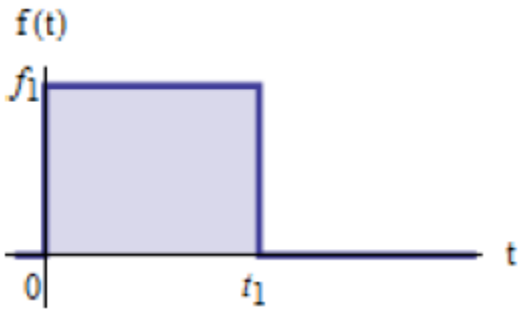
Calculus: Pulse Function

Consider the pulse function $f(t)$ shown:



Evaluate the integrals by hand and plot the following integrals in MATLAB. Note that the independent variable t can be less than or greater than t_1. Since the integrand $f(t)$ is a two-part function, the integral $I(t)$ is best evaluated as a two-part function.

a) $I(t) = \int_{t_o=0}^{t} f(t_o)\ dt_o$

b) $I(t) = \int_{t_o=0}^{t} f(t_o) e^{\frac{-(t-t_0)}{\tau}}\ dt_o$