

SP 3.1

- a) Use the convolution integral in order to determine the response of the spring-mass system shown to a unit ramp loading, i.e. $F(t) = r(t) = \begin{cases} 0, & t < 0 \\ t, & t \geq 0 \end{cases}$
- b) Use the result of part “a” along with superposition in order to determine the response of the system to the “step-function with rise-time” shown.
- c) Does anything special happen if $T = 2\pi/\omega_n$? If so, what happens?

