

OBJECTIVE: To determine  $E_\infty$  and  $P_\infty$  for  $x(t) = \sqrt{t}$

$$E_\infty = \int_{-\infty}^{\infty} |x(t)|^2 dt$$

$$= \int_{-\infty}^{\infty} |\sqrt{t}|^2 dt$$

$$= \int_0^{\infty} t dt$$

$$= \frac{t^2}{2} \Big|_0^{\infty}$$

$$= \infty$$

$$P_\infty = \lim_{T \rightarrow \infty} \frac{1}{2T} \int_{-\infty}^{\infty} |x(t)|^2 dt$$

$$= \lim_{T \rightarrow \infty} \frac{1}{2T} * \frac{T^2}{2} \Big|_{T=\infty}$$

$$= \frac{T}{4}$$

$$= \infty$$