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ECE301

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

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

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

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

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

$$= \infty$$

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

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

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

$$= \infty$$