1. Determine if these systems, with input $x(t)$ and output $y(t)$, are:
   (i) linear and (ii) time-invariant (30 points each)

(a) $y(t) = x(t-1)$
   Linear: Yes
   Time Invariant: Yes

(b) $y(t) = \int_{-\infty}^{t+1} x(\tau)u(\tau)\,d\tau$
   Linear: Yes
   Time Invariant: No

2. Find the power of the following functions (20 points each)

(a) $x(t)$
   $P = 1$

(b) $x(t)$
   $P = 1/3$
1. Determine if these systems, with input \( x(t) \) and output \( y(t) \), are:
   (i) linear and (ii) time-invariant (30 points each)

(a) \( y(t) = x(t+1) \)
   Linear: Yes
   Time Invariant: Yes

(b) \( y(t) = \int_{-\infty}^{t} x(\tau)^2 u(\tau) \, d\tau \)
   Linear: No
   Time Invariant: No

2. Find the power of the following functions (20 points each)

(a) \( P = 4 \)

(b) \( P = 3 \)
1. Determine if these systems, with input $x(t)$ and output $y(t)$, are:
   (i) linear and (ii) time-invariant (30 points each)

(a) $y(t) = x(t+3)$
   Linear: Yes
   Time Invariant: Yes

(b) $y(t) = \int_{-\infty}^{t} x(\tau)^3 u(\tau) d\tau$
   Linear: No
   Time Invariant: No

2. Find the power of the following functions (20 points each)

(a) $P = 4/3$

(b) $P = 9$
1. Determine if these systems, with input $x(t)$ and output $y(t)$, are:
   (i) linear and (ii) time-invariant (30 points each)

   (a) $y(t) = x(t+3)$

   (b) $y(t) = \int_{-\infty}^{t} x(\tau)^3 u(\tau) d\tau$

2. Find the power of the following functions (20 points each)

   (a)

   (b)