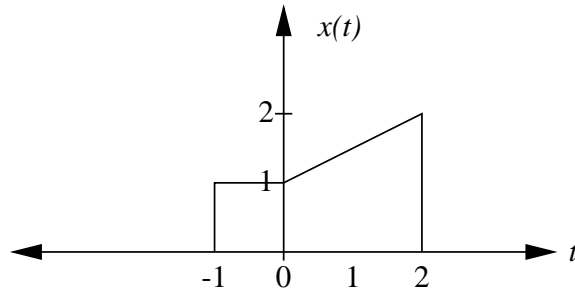


1. (10 Pts Total) A continuous-time signal, $x(t)$, is given below.



- (a) (2 pts) Is $x(t)$ periodic (yes or no)?
- (b) (2 pts) Is $x(t)$ bounded (yes or no)?
- (c) (2 pts) Is $x(t)$ even (yes or no)?
- (d) (2 pts) Sketch and carefully label the signal $\tilde{x}(t) = x(2t - 5)$.
- (e) (2 pts) Sketch and carefully label the even part of the signal $x(t)$.
2. (10 Pts Total) Consider a three-day moving average system: $y[n] = (x[n] + x[n - 1] + x[n - 2])/3$.
- (a) (2 pts) Is the system memoryless (yes or no)?
- (b) (2 pts) Is the system causal (yes or no)?
- (c) (2 pts) Is the system time-invariant (yes or no)?
- (d) (2 pts) What is the definition of a BIBO stable system?
- (e) (2 pts) Give an example of a system which is linear.