

EECE 440 Signals and Systems HW 1 Solution

Part I

1.

a. $E = \infty; M=0; P_{\text{avg}}=0.5; \text{RMS}=\frac{\sqrt{2}}{2}$

b. $E = \frac{5}{3}\infty; M=0; P_{\text{avg}}=0; \text{RMS}=0$

c. $E = \frac{3}{8}T_0 \infty; M=0; P_{\text{avg}}=0; \text{RMS}=0$

d. $E = \infty; M=7; P_{\text{avg}}=49; \text{RMS}=7$

2.

a. $T = \frac{\pi}{2}$

b. $T = 2$

c. $T = \frac{\pi}{2}$

3.

	Memoryless	Time invariant	Linear	Causal	Stable
a.	No	No	Yes	No	Yes
b.	Yes	No	Yes	Yes	Yes
c.	No	Yes	Yes	Yes	No
d.	No	No	Yes	Yes	Yes
e.	No	No	Yes	Yes	Yes