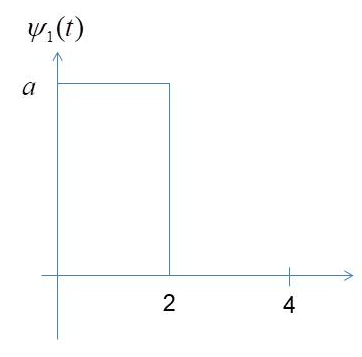
A binary communication system uses the following pulse:

**

where *ψ1*(*t*) is a unit-energy rectangular pulse of duration is 4 seconds shown in the following figure.



1. it is an antipodal or orthogonal modulation? Draw the constellation.
2. Determine a.
3. Sketch carefully a block diagram of the demodulator. In particular, you must give a detailed specification of the impulse response of the matched filter, the sampling time, and the decision rule

Write on the paper the optimum receiver?what is the optimum receiver and match filter?

Thermal noise what is?

What is intersymbol interference?