# 4.1

The sequence

was obtained by sampling a continuous-time signal

at a sampling rate of 1000 samples/s. What are two possible positive values of that could have resulted in the sequence ?

# 4.2

Consider the system shown in Figure 4-1. For each of the following input signals , indicate whether the output



Hint: Use the modulation property of the Fourier transform to find .

3

3

1

-π/3

Figure 4-1

# 4.3

In Figure 4-2, assume that and are as shown. Sketch and lable the Fourier transform of for each of the following cases:

1. ,

*C/D*

*D/C*

1

Ω

1

Figure 4-2

# 4.4

Consider the sequence whose Fourier transform is known in Figure 4-3. Define

and

1. Sketch and for each of the following cases:
2. What is the maximum value of that will avoid aliasing when ?

0

Figure 4-3