



PROBLEM:

A linear time-invariant system is described by the difference equation: $y[n] = \sum_{k=0}^5 x[n - k]$

The input to this system is a complex exponential signal:

$$x[n] = je^{j0.4\pi n} \quad -\infty < n < \infty$$

Compute $y[n]$, over the range $-\infty \leq n \leq \infty$. Simplify as much as possible.

McClellan, Schafer and Yoder, *Signal Processing First*, ISBN 0-13-065562-7.

Prentice Hall, Upper Saddle River, NJ 07458. © 2003 Pearson Education, Inc.