

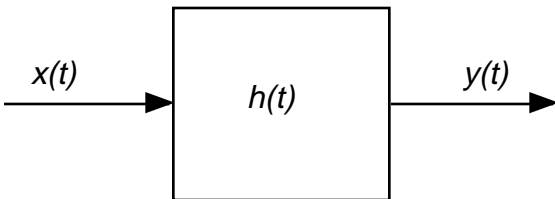
**ECE 425 – Image Science and Engineering
Spring Semester 1999**

PREREQUISITE ASSESSMENT

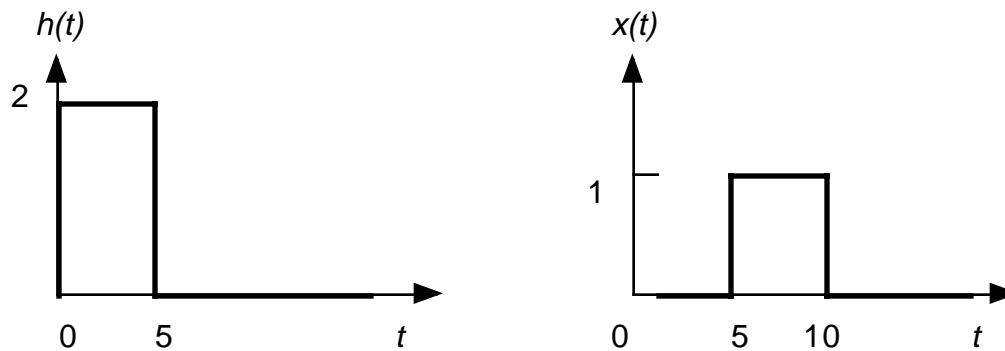
January 14, 1999

Answer all questions to the best of your ability – this quiz will NOT affect your grade in this class!

1. Consider a linear, time-invariant system:



Find the output signal for the given system impulse response and input signal:



- a. What is the maximum amplitude of the output signal?
- b. What is the total duration of the output signal?
- c. Sketch the output signal versus time.
- d. If $X(\omega)$, $H(\omega)$ and $Y(\omega)$ are the Fourier transforms of $x(t)$, $h(t)$ and $y(t)$, respectively, write the mathematical relation between X , H and Y .

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2. Sketch the Fourier transforms of the following functions and give their widths:

