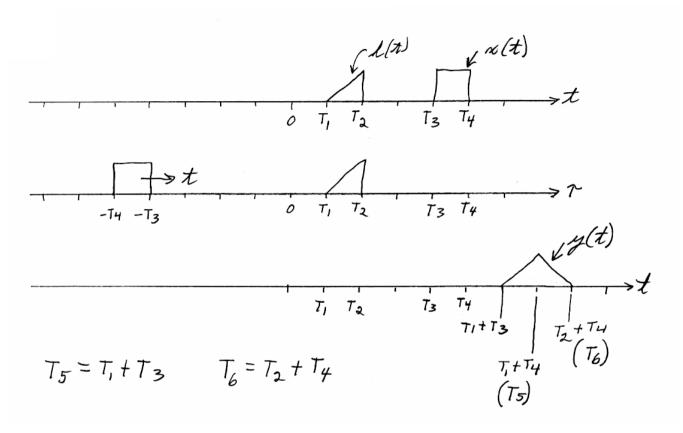


## **PROBLEM:**

The best way to work it is to draw pictures with "typical" input and impulse response signals. The impulse response of an LTI continuous-time system is such that h(t) = 0 for  $t \le T_1$  and for  $t \ge T_2$ . By drawing appropriate figures as recommended for evaluating convolution integrals, show that if x(t) = 0for  $t \le T_3$  and for  $t \ge T_4$  then y(t) = x(t) \* h(t) = 0 for  $t \le T_5$  and for  $t \ge T_6$ . In the process of proving this result you should obtain expressions for  $T_5$  and  $T_6$  in terms of  $T_1$ ,  $T_2$ ,  $T_3$ , and  $T_4$ . McClellan, Schafer and Yoder, Signal Processing First, ISBN 0-13-065562-7. SOLUTION Prentice Hall, Upper Saddle River, NJ 07458. (c) 2003 Pearson Education, Inc.



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