Homework 6
Due 18:10, 17 Dec. 2009

1. Determine the Laplace transform and ROC for the following signals: (55%)

   (1) $x(t) = e^{-t}u(t+4)$ (25%)

   (2) $x(t) = \sin(t)u(t)$ (30%)

2. Use the method of partial fractions to determine the time signals corresponding to the following Laplace transform: (45%)

$$X(s) = \frac{-s-4}{s^2 + 3s + 2}$$

   (1)   With ROC $\text{Re}\{s\} < -2$ (15%)

   (2)   With ROC $\text{Re}\{s\} > -1$ (15%)

   (3)   With ROC $-2 < \text{Re}\{s\} < -1$ (15%)