University of Waterloo
MATH 213, Spring 2015
Assignment 6

Question 1

a) Find the inverse of the given transform in two different ways: using partial fractions and using the convolution theorem.

$$\frac{7}{(s-3)s^3}$$

Question 2

Use the Laplace transform to find the particular solution of the following functions

$$y' + y = \sin(t-3)u(t-3) + tu(t-3) - 3u(t-3)$$

Where

$$u(t) = \begin{cases} 0 & \text{when } t < 0 \\ 1 & \text{when } t \geq 0 \end{cases}$$