

# EE3210 Signals and Systems

## Tutorial 11

**Problem 1:** Determine the inverse Laplace transform of

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

with the ROC specified as

- (a)  $\text{Re}\{s\} > -3$
- (b)  $\text{Re}\{s\} < -4$
- (c)  $-4 < \text{Re}\{s\} < -3$

**Problem 2:** Consider a signal  $y(t)$  which is related to two signals  $x_1(t)$  and  $x_2(t)$  by

$$y(t) = x_1(t-2) * x_2(-t+3)$$

where

$$x_1(t) = e^{-2t}u(t) \quad \text{and} \quad x_2(t) = e^{-3t}u(t).$$

Determine the Laplace transform  $Y(s)$  of  $y(t)$ .