MPCS52080 Assignment 4

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## 2. Derive an expression for the Fourier Transform of the following functions.

(a).

(b).

(c).

(d).

## 5. Show the calculation to determine if the following ARMA(2,2) process invertible

=>

=> and

Since both roots of the equation is outside the unit circle, this process is **invertible**.

## Shumway Question 4.4

## (a).

* Expected value:
* Variance:
* Autocovariance: =
  + (1+ if h = 0
  + , if h =
  + , otherwise

As E is constant, variance is constant too, and auto-covariance is independent of t and only depends on lag, this is a stationary process.

## (b).