

Assignment 4

Insert author

Insert date

Abstract

Instructions: Please set the following using

```
\begin{itemize}
\item{(a)}
\item{(b)}
\item{(c)}
\end{itemize}
```

Make sure to load the amsmath package. Use following commands in the preamble to simplify the task:

```
\newcommand\F{\mathcal{F}}
\newcommand\R{\mathrm{R}}
```

Experiment with

```
\noindent {\bf text to be in bold} {\it text to be in italics}
```

Definition. Let (Ω, \mathcal{F}) be a measurable space. A *probability measure* P on (Ω, \mathcal{F}) is a function $P : \mathcal{F} \rightarrow \mathbb{R}$ satisfying

- (a) $P(A) \geq 0$, if $A \in \mathcal{F}$,
- (b) $P(\Omega) = 1$, and,
- (c) if A_1, A_2, \dots is a collection of *mutually exclusive* events in \mathcal{F} , then

$$P\left(\bigcup_{i=1}^{\infty} A_i\right) = \sum_{i=1}^{\infty} P(A_i).$$

The triple (Ω, \mathcal{F}, P) is called a *probability space*.