

8

The Mathematics of Likelihood

8.1 Assigning a Measure to Likelihood

- ▶ Use probability to describe the likelihood of an event.
- ▶ Analyze the likelihood of a risk.
- ▶ Use likelihood to describe actuarial data.

8.2 Estimating Likelihood

- ▶ Find a theoretical probability.
- ▶ Find an experimental probability.
- ▶ Estimate a probability using historical results.

8.3 Expected Value

- ▶ Find an expected value involving two events.
- ▶ Find an expected value involving multiple events.
- ▶ Use expected value to make investment decisions.

8.4 Expecting the Unexpected

- ▶ Find the probability of independent events.
- ▶ Find the probability that an event does not occur.
- ▶ Find counterintuitive probabilities.