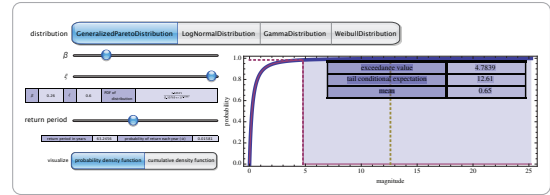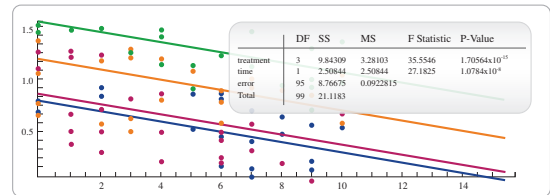# THE *MATHEMATICA*®
ACTUARIAL SCIENCES SOLUTION

Bring in standardized data from our sources or your spreadsheets, calculate risks or premiums symbolically or numerically, and present fully interactive charts and reports with traditional actuarial notation—a complete workflow.

Underlying the *Mathematica* actuarial sciences solution is the most automated and reliable environment for computation, rapid development, and web or local deployment.
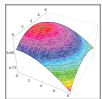

$$_{n|m}q_x \qquad \overset{0}{e}_{x:\overline{n|}}$$


Why *Mathematica* in Actuarial Sciences?

Mathematica includes thousands of built-in functions for computation, modeling, visualization, development, and deployment.

### KEY ACTUARIAL SCIENCES CAPABILITIES

- Statistical analysis tools, standard probability distributions, and dispersion measures for calculating risks and cumulative probabilities

- ANOVA and post-hoc tests to examine survival models with interdependent parameters

- Symbolic and numeric integration and other capabilities for calculating expected losses and payments

- Calculate with built-in traditional mathematical notation that can be extended with industry-standard actuarial notation

- Built-in geographic, economic, and demographic information that can be combined with data imported in all common data formats

WAYS TO USE

$$_{m|}^{2}\overline{A}_{x:\overline{n|}}^{1}$$
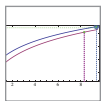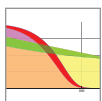
- Import life tables or other spreadsheets and easily do complex calculations

- Calculate present value of expected premiums or benefits to set pricing for insurance policies

- Create interactive tools for quick calculations or presentations and deploy them to others with the *Mathematica Player*™ family or web*Mathematica*™

- Visualize your data in any way you choose, including creating interactive plots

- Compare the possible premiums and payments of several policies

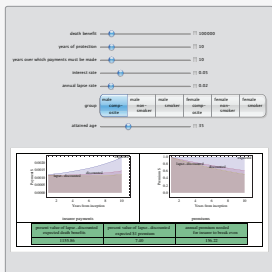- Give presentations using industry-standard notation
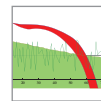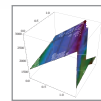
And more at:
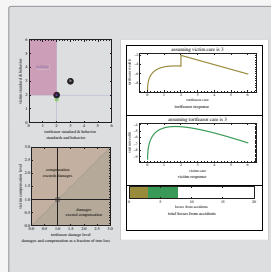**wolfram.com/solutions/flyer/actuarialsciences**
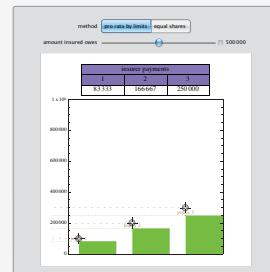
Interactive Actuarial Sciences Examples

The Wolfram Demonstrations Project offers thousands of free, ready-to-use models contributed by users. Here are a few examples:
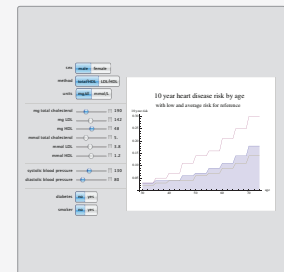

Life Insurance Pricing

Bilateral Accident Model

Coordination of Insurance Policies

Heart Disease Risk

WHO USES *MATHEMATICA*?

Some of the most important institutions in the world, including:

Allstate

Metropolitan Life

The Institute of Statistical Mathematics

Deutsche Bank AG

Federal Reserve Board

Goldman Sachs

WHAT ARE THE EXPERTS SAYING ABOUT *MATHEMATICA*?

"When I tell them [legislators] what the risks are of post-event bonding, they know I'm not talking out of my hat. They know there's real science behind this."

Seth Chandler
University of Houston Law Center

"Combining the speed, the power, the set of functions you have available for programming, what you get is an amazing toolbox that [is] hard to find anywhere else."

Ariel Sepúlveda
Founder, Pronto Analytics

Vertrieb durch:
ADDITIVE GmbH • Max-Planck-Straße 22b • 61381 Friedrichsdorf
http://www.additive-mathematica.de • eShop: http://eshop.additive-net.de
Verkauf: +49-6172-5905-30   mathematica@additive-net.de
Support: +49-6172-5905-20   support@additive-net.de

NEXT STEPS

Visit our Actuarial Sciences Solutions page to find out how to incorporate *Mathematica* into your daily work and research.

Key resources include:
• Video screencasts
• Free online seminars
• Full *Mathematica* documentation, with more than 50,000 examples, how tos, and tutorials
• Books and articles

➡ **wolfram.com/solutions/flyer/actuarialsciences**

QUESTIONS?

Contact us and let us work with you to find the right solution for your computational needs.

WOLFRAM RESEARCH, INC.
info@wolfram.com
1-800-WOLFRAM (965-3726)
+1-217-398-0700
(outside U.S. & Canada)

WOLFRAM RESEARCH
EUROPE LTD.
info@wolfram.co.uk
+44-(0)1993-883400

ADDITIVE additive-net.de
SOFT- & HARDWARE FÜR TECHNIK & WISSENSCHAFT