



ASQ CRE Prep course

Lesson II. A. 3. d.

Probability Distributions

Bathtub Curve

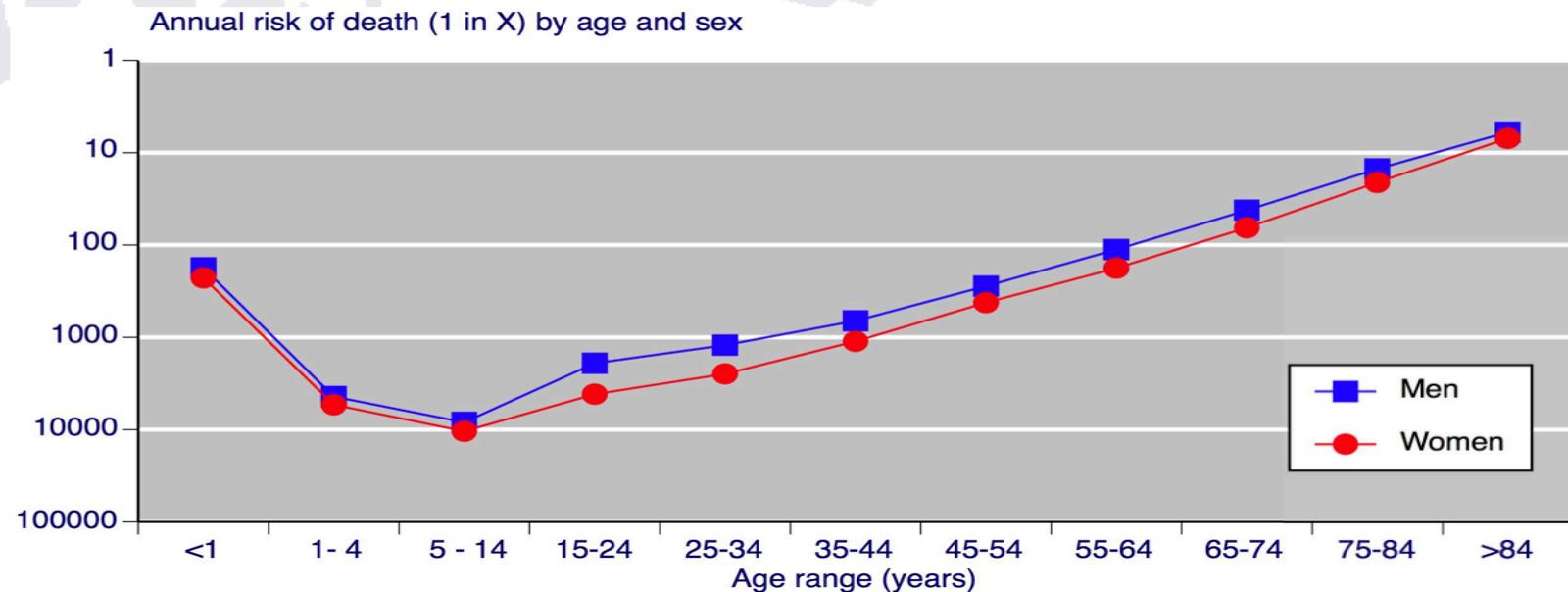
A photograph of a dark asphalt road curving away from the viewer into a vast, green landscape. The sky is a gradient of blue and orange, with the sun low on the horizon, casting a warm glow. The road is marked with white dashed lines.

Even though it doesn't really exist

THE FAMOUS BATHTUB CURVE

Human Mortality

Figure 1: Annual risk of death by age and sex in the UK



The bathtub is a nice convention

- Doesn't really exist
- Composite of the many failure mechanisms

$h(t)$

Time, t

Early Life Failures (infant mortality)

- **Workmanship**
- **Faulty components**
- **Batch defects**
- **Assembly errors**
- **Transportation & Installation damage**

- **Decreasing failure rate**

Constant Failure Rate

- **Accidents**
- **Random events – which tend to be rare, like lightning strikes**
- **Constant failure rate**

Wearout Period

- **Fatigue**
- **Wear**
- **Corrosion**
- **Increasing failure rate**

Can wear out
occur quickly?



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Lesson II. A. 4.

Poisson Process Models



Work the Examples, too



Take another Sample Exam



Send over your questions



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