SCOR Global P&C

Actuaries in Marine
One Reinsurer's View

Jim McDonald
SCOR

Probability

Question;

What is the probability of an actuary having a sense of humour?

Answer;

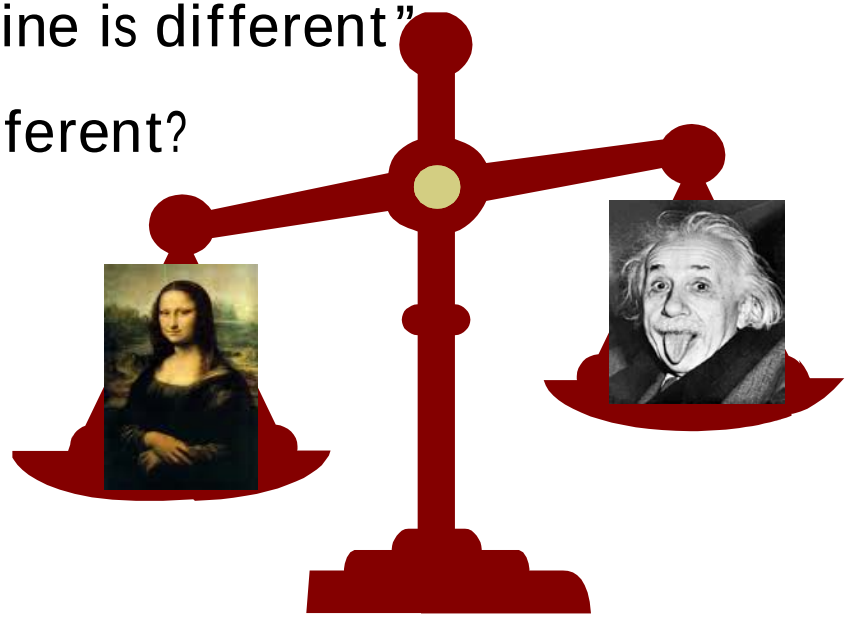
$$p_n = \int_0^\infty \frac{e^{-\lambda}\lambda^n}{n!}\frac{\lambda^{\alpha-1}e^{-\frac{\lambda}{\theta}}}{\theta^\alpha \Gamma(\alpha)}d\lambda, \qquad n = 0, 1, 2\ldots$$

$$f(x) = \left(\frac{\theta}{2\pi x^3}\right)^{1/2} \exp\left[-\frac{\theta}{2x}\left(\frac{x-\mu}{\mu}\right)^2\right], \qquad x > 0$$

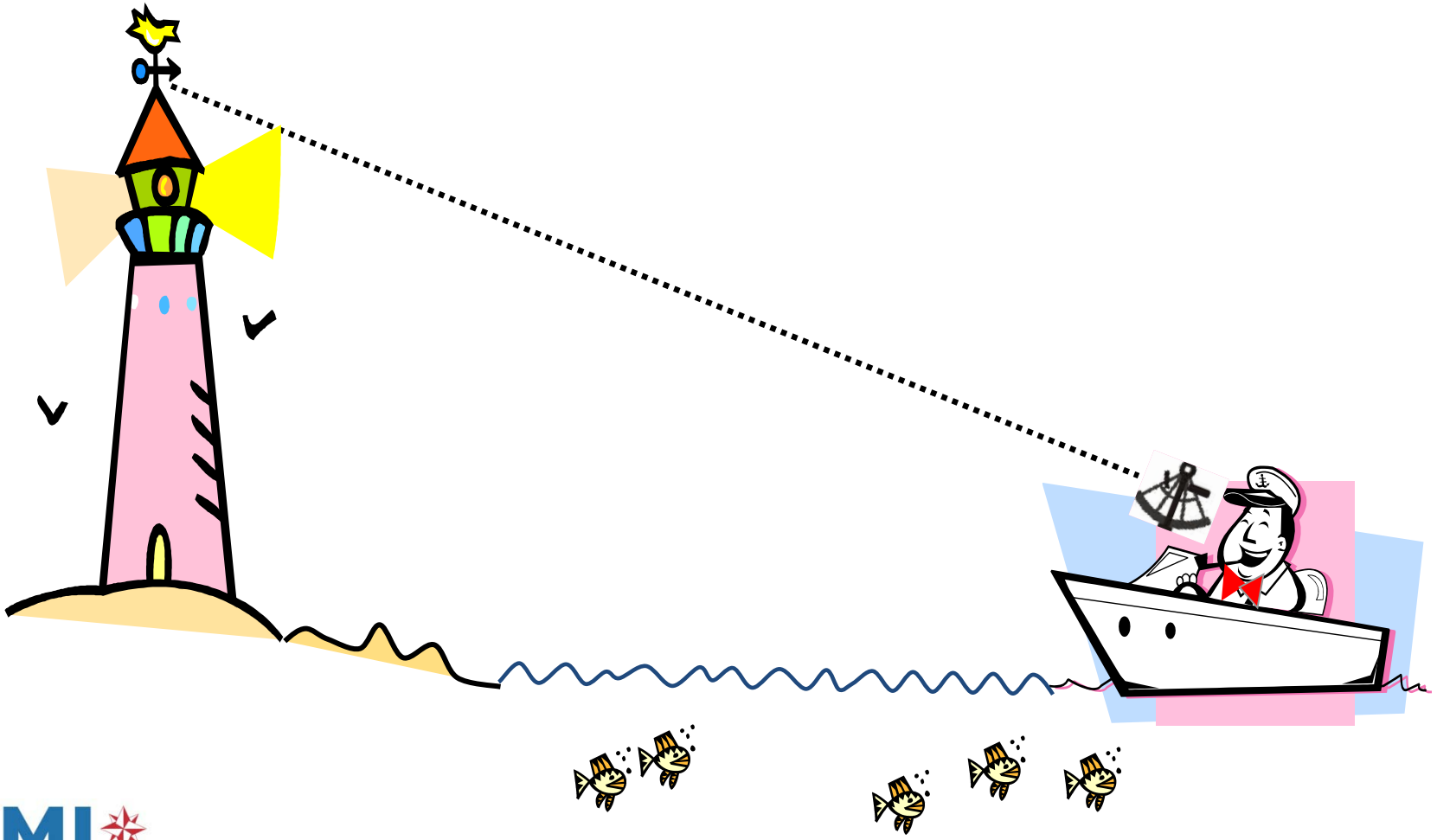
Why are we even discussing this?

Is it the same old question? i.e.
Is your business an Art or a Science?

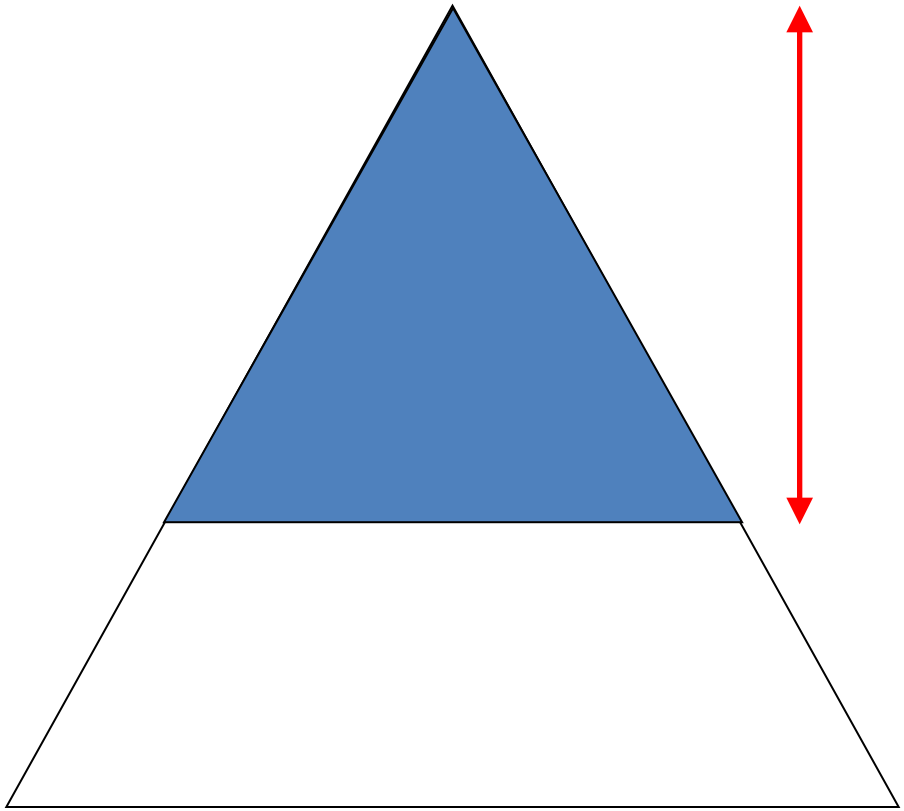
- Actuarial science is already well embedded in certain insurance disciplines e.g. life, cat modelling and treaty reinsurance.
- It is too easy to hide behind the "Navigation defence" e.g. "Marine is different"
- Are we really so different?



How far is this yacht from the rocks?



Can the same formula be applied top down?



What is the correct price?

- Probably the one industry where the cost of the raw materials is only known after the selling price is set.

- Other challenges:
  - Data is poor.
  - No independent, third party modelling.
  - Multiple indemnity applies.
  - Base line drift.
  - Resistance to change.

- The price is just one factor.
  - Risk selection and coverage must be considered, but the most important is **experience**.

Summary

- Anything that helps you to do something must be a good thing.

- A GPS in your car is a good thing, but it only works if you continue to think, and to look out of the windscreen, instead of listening to a machine.....