

Question set 2

1. Use the raw data for probit analysis provided in the class webpage, and follow the steps of Finney to produce a linear scatterplot.

Hint: The function `qnorm(x)` computes $\Phi^{-1}(x)$ in R. You must not use any probit-specific package!

2. Download the Prussian Horse Kick data from:

`https://www.key2stats.com/data-set/view/1327`

Read about the story behind it. Fit a $\text{Poisson}(\lambda)$ distribution to it. The Poisson distribution is a discrete distribution with PMF:

$$f(x) = e^{-\lambda} [\lambda^x x!], \quad x = 0, 1, 2, \dots$$

Report the estimated value of λ . Make a table with two columns, one column for the fitted Poisson PMFs, and one for the observed relative frequencies.

[Hint: You may use the `fitdistr` function from the MASS package to fit a Poisson model.