# Lab 3 additional exercises

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## 3. Getting familiar with a bestiary of functions

The models that we will be fitting to data are composed of a deterministic component and a stochastic component. The deterministic component describes the expected pattern in absence of any randomness. You are not restricted to linear functions (as in linear regression) but you can choose among different functions.

In this exercise you will get familiar with a number of those functions. You will read in a dataset, make plots of six different datasets and choose one (or more) appropriate functions for each dataset. Next, by eyeballing you will choose appropriate parameter values so you get a reasonable fit between the data and the choosen function.

A pseudocode that implements this idea:

1. Read the datasets (`shapes.csv`)
2. Plot the datasets in different graphs (*hint*: use subsetting, `par(mfrow=c(..,..)`, and `plot`))
3. For each plot, choose an appropriate function based on the shape of the data. *hint*: you can choose functions that are purely phenomological or mechanistic (see p.21 of Bolker).
4. Plot those curves in seperate plots (*hint*: use `curve()`)
5. Choose appropriate parameter values so the chose curve matches the data