

8.2: Contour Plots

Learning Objectives

- Describe a contour plot
- Interpret a contour plot

Contour plots portray data for three variables in two dimensions. The plot contains a number of contour lines. Each contour line is shown in an $X - Y$ plot and has a constant value on a third variable. Consider the Figure 8.2.1 that contains data on the fat, non-sugar carbohydrates, and calories present in a variety of breakfast cereals. Each line shows the carbohydrate and fat levels for cereals with the same number of calories. Note that the number of calories is not determined exactly by the fat and non-sugar carbohydrates since cereals also differ in sugar and protein.

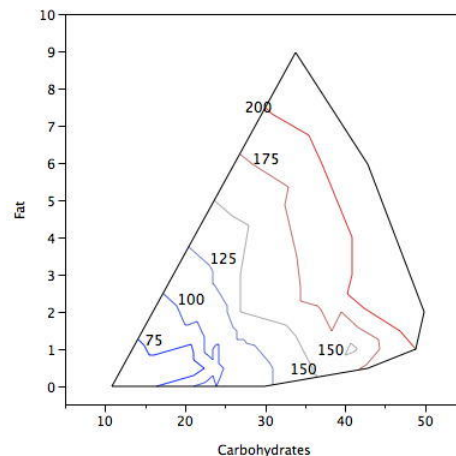


Figure 8.2.1: A contour plot showing calories as a function of fat and carbohydrates

An alternative way to draw the plot is shown in Figure 8.2.2. The areas with the same number of calories are shaded.

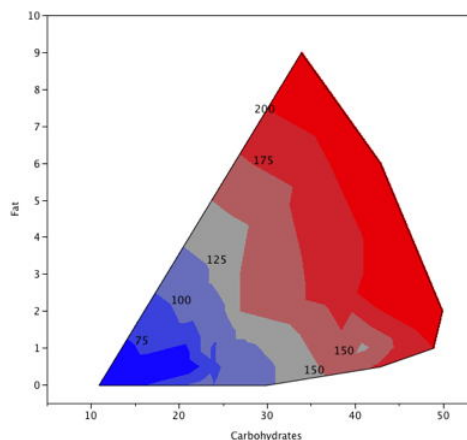


Figure 8.2.2: A contour plot showing calories as a function of fat and carbohydrates with areas shaded. An area represents values less than or equal to the label to the right of the area.

Contour plots are used in many disciplines. For example, in cartography, contour lines can indicate areas of equal elevation, whereas in meteorological maps, contour lines can show equal temperature or equal barometric pressure.

The following links explain the drawing and interpretation of countour maps.

[Application in Geology](#)

[Application in Meteorology](#)

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