

1 Lecture 15

1.1 General Regions (cont.)

As we saw in the previous lecture, we have the following regions

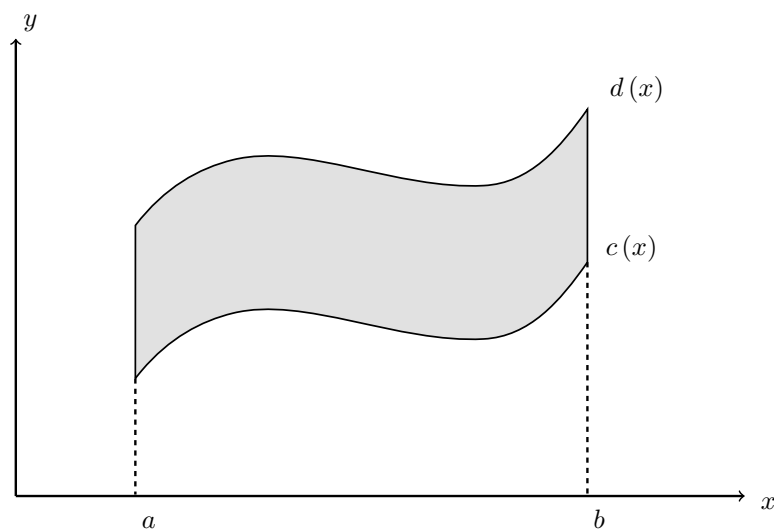


Figure 1: y-simple

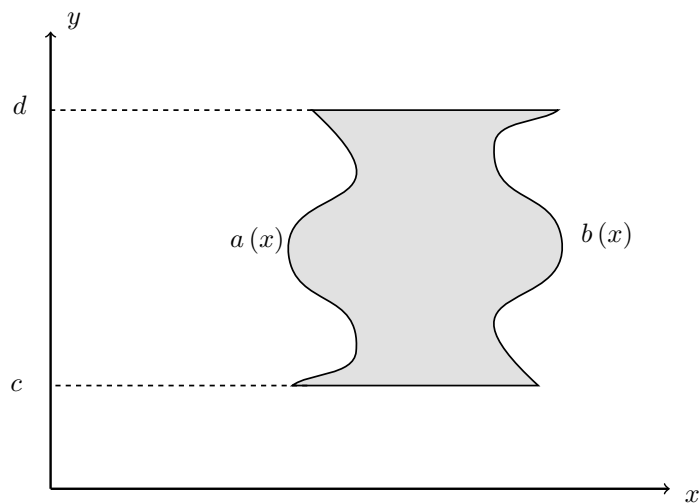
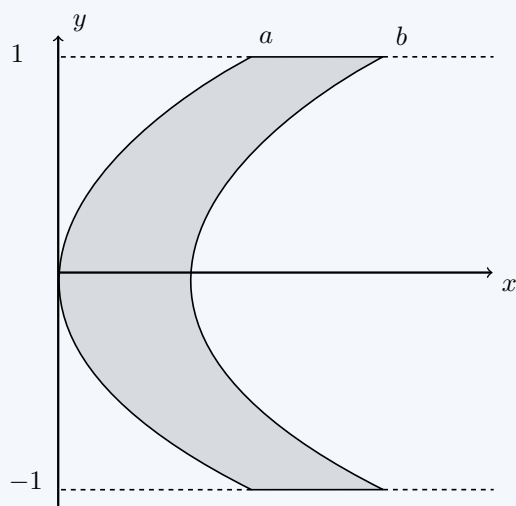


Figure 2: x-simple

Example. Consider the region with $-1 \leq x \leq 1$ and bounded by

$$a(y) = y^2, \quad b(y) = y^2 + \frac{1}{2}$$



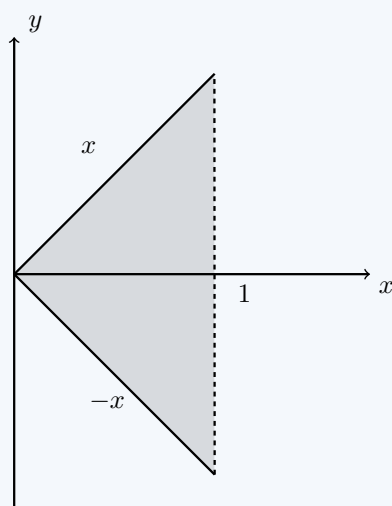
This is an x-simple region.

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More general regions can be partitioned into x-simple and y-simple regions. A region can be described in many different ways.

Example. Consider the region

$$D = \{(x, y) : 0 \leq x \leq 1, \quad -x \leq y \leq x\}$$



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