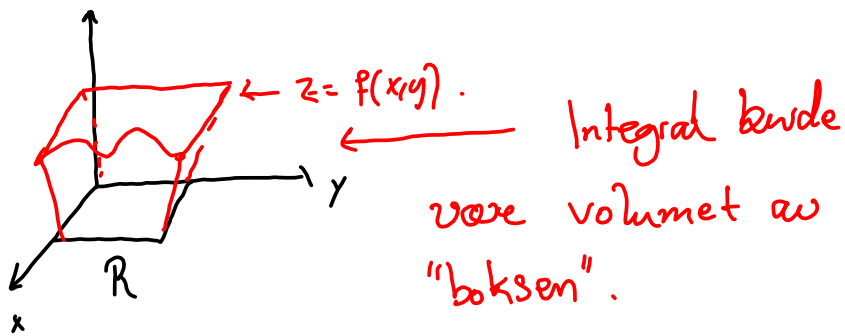
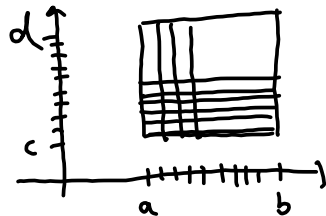


## 6.1 Dobbeltintegraler



La  $R = [a, b] \times [c, d]$  være et rektangel.



Velg en partisjon av  $[a, b]$ :

$$a = x_0 < x_1 < x_2 < \dots < x_n = b,$$

og av  $[c, d]$ :

$$c = y_0 < y_1 < \dots < y_m = d$$

Partisjon  $\Pi$  av  $R$ .  $\rightarrow$  Sett  $R_{ij} = [x_{i-1}, x_i] \times [y_{j-1}, y_j]$ .

Anta nå at  $f: R \rightarrow \mathbb{R}$  er en funksjon.

$$m_{ij} := \inf \{ f(x, y) : (x, y) \in R_{ij} \}$$

$$M_{ij} := \sup \{ f(x, y) : (x, y) \in R_{ij} \}.$$

Nederste trappestem: 
$$N(\Pi) = \sum_{i,j} m_{ij} (x_i - x_{i-1}) (y_j - y_{j-1})$$

$$\phi(\Pi) = \sum_{i,j} M_{ij} (x_i - x_{i-1}) (y_j - y_{j-1})$$