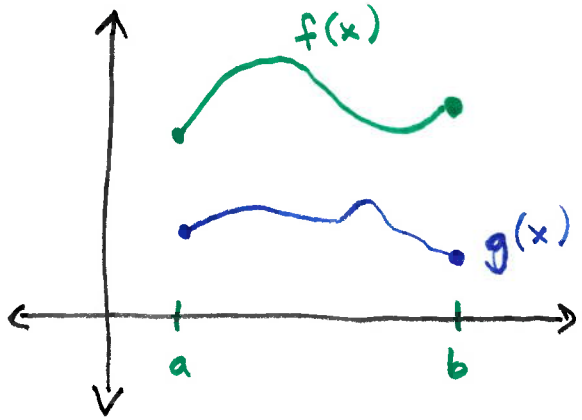
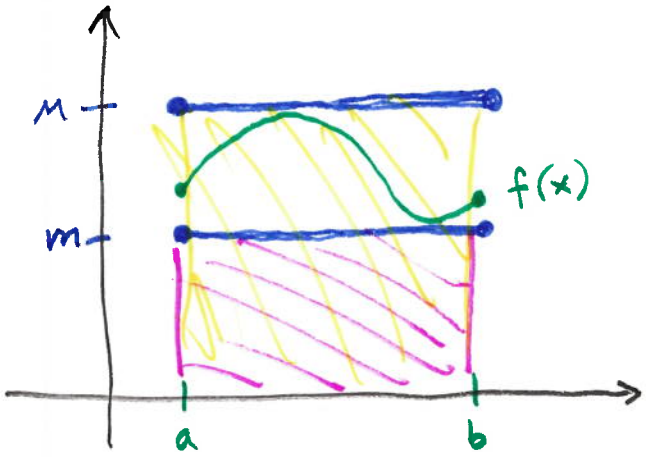
Comparison Theorem *(Theorem 5)* If f and g are integrable and $g(x) \leq f(x)$ for x in $[a, b]$, then



$$\int_a^b g(x)dx \leq \int_a^b f(x)dx$$

If there are numbers m and M so that $m \leq f(x) \leq M$ for x in $[a, b]$, then



$$m(b-a) \leq \int_a^b f(x)dx \leq M(b-a)$$