

Exercises Set 3

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Abstract

Only the questions with a * are compulsory (but do all of them!).

1 Fundamental Theorem of Calculus

Let $f(x)$ be a continuous function on the closed interval $[a, b]$, and let $F(x)$ be an anti-derivative of $f(x)$. Prove that

$$\int_a^b f(x) dx = F(b) - F(a).$$