



**Why**

If we scale an integrable function is the resulting function integrable? If so, what is its integral?

**Result**

**Proposition 1.** *Suppose  $f : \mathbf{R} \rightarrow \mathbf{R}$  is integrable. Then for any  $\lambda \in \mathbf{R}$ , the function  $\lambda f$  is integrable and*

$$\int \lambda f = \lambda \int f$$



