함수의 상수배의 극한은 함수의 극한의 상수배이다.
(The limit of a constant times a function is the constant times the limit of the function.)

The limit of a constant times a function is the constant times the limit of the function.

▸ Start ▸ End

The limit of a constant times a function is the constant times the limit of the function.

Start End

Theorem

The limit of a constant times a function is the constant times the limit of the function.

Start End

Theorem

c : *constant*

The limit of a constant times a function is the constant times the limit of the function.

Start End

Theorem

c : *constant*, $\lim_{x \to a} f(x) = L$

The limit of a constant times a function is the constant times the limit of the function.

Start End

Theorem

c : *constant*, $\lim_{x \to a} f(x) = L$

$$\lim_{x \to a} cf(x)$$

The limit of a constant times a function is the constant times the limit of the function.

Start End

Theorem

c : *constant*, $\lim_{x \longrightarrow a} f(x) = L$

$$\lim_{x \longrightarrow a} cf(x) = cL$$

The limit of a constant times a function is the constant times the limit of the function.

Start End

Theorem

c : *constant*, $\lim_{x \longrightarrow a} f(x) = L$

$$\lim_{x \longrightarrow a} cf(x) = cL$$

Proof.

The limit of a constant times a function is the constant times the limit of the function.

Start End

Theorem

c : *constant*, $\lim_{x \to a} f(x) = L$

$$\lim_{x \to a} cf(x) = cL$$

Proof.

$\epsilon > 0$

The limit of a constant times a function is the constant times the limit of the function.

▸ Start ▸ End

Theorem

c : *constant*, $\lim_{x \to a} f(x) = L$

$$\lim_{x \to a} cf(x) = cL$$

Proof.

$\epsilon > 0$

$|cf(x) - cL|$

The limit of a constant times a function is the constant times the limit of the function.

Start End

Theorem

c : *constant*, $\lim_{x \to a} f(x) = L$

$$\lim_{x \to a} cf(x) = cL$$

Proof.

$\epsilon > 0$

$$|cf(x) - cL| = |c| \cdot |f(x) - L|$$

The limit of a constant times a function is the constant times the limit of the function.

▸ Start ▸ End

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c : *constant*, $\lim_{x \to a} f(x) = L$

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Proof.

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$$\begin{aligned} |cf(x) - cL| &= |c| \cdot |f(x) - L| \\ &\leq (|c| + 1)|f(x) - L| \end{aligned}$$

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$\exists \delta_1 > 0$

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$\exists \delta_1 > 0$ s.t. $0 < |x - a| < \delta_1$

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$\delta = \delta_1$

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$\therefore \forall$

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$0 < |x - a| < \delta \Rightarrow |cf(x) - cL| < \epsilon$

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$\therefore \forall \epsilon > 0, \exists \delta > 0$ s.t. $0 < |x - a| < \delta \Rightarrow |cf(x) - cL| < \epsilon$

□

Github:
https://min7014.github.io/math20231128002.html

Click or paste URL into the URL search bar, and you can see a picture moving.