Properties of Limits

Lecture 9
Section 1.5

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Wed, Feb 1, 2017

Objectives

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- Learn the properties of limits.

Properties of Limits

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$$\begin{aligned}\lim_{x\to c} k &= k,\\ \lim_{x\to c} x &= c,\\ \lim_{x\to c}[f(x)+g(x)] &= \lim_{x\to c} f(x) + \lim_{x\to c} g(x),\end{aligned}$$

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\lim_{x\to c} [f(x) + g(x)] &= \lim_{x\to c} f(x) + \lim_{x\to c} g(x),\\
\lim_{x\to c} [f(x) - g(x)] &= \lim_{x\to c} f(x) - \lim_{x\to c} g(x),\\
\lim_{x\to c} [kf(x)] &= k \lim_{x\to c} f(x),
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$$\lim_{x\to c} [f(x)]^p = \left[\lim_{x\to c} f(x)\right]^p \text{ provided } \left[\lim_{x\to c} f(x)\right]^p \text{ exists.}$$