

TeX code compiled with `\documentclass{beamer}` using the Amsterdam theme.

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\begin{document} \begin{frame} \large The statement "Whether or not  $\lim_{x \rightarrow a} f(x)$  exists, depends on how  $f(a)$  is defined," is true \begin{itemize} \item[(a)] sometimes, \item[(b)] always, \item[(c)] never. \end{itemize} \end{frame} \begin{frame} \Large Find the following limits. \vskip 15pt \begin{columns} \begin{column} {0.5\textwidth} \begin{enumerate} \item[\bf a)]  $\lim_{x \rightarrow 7^-} \frac{x+6}{x-7}$  \vskip 30pt \item[\bf b)]  $\lim_{x \rightarrow 4} \frac{3-x}{(x-4)^2}$  \end{enumerate} \end{column} \begin{column} {0.5\textwidth} \begin{enumerate} \item[\bf c)]  $\lim_{x \rightarrow 1^+} \frac{8}{x^3-1}$  \vskip 30pt \item[\bf d)]  $\lim_{x \rightarrow 1^-} \frac{8}{x^3-1}$  \vskip 30pt \end{enumerate} \end{column} \end{columns} \end{frame} \begin{frame} \LARGE If a function  $f$  is not defined at  $x=a$ , \begin{enumerate}[a)] \item  $\lim_{x \rightarrow a} f(x)$  cannot exist \item  $\lim_{x \rightarrow a} f(x)$  could be  $0$  \item  $\lim_{x \rightarrow a} f(x)$  must approach  $\infty$  \item none of the above. \end{enumerate} \end{frame} \begin{frame} \Large Draw the graph of a function  $f(x)$  such that  $\lim_{x \rightarrow 4} f(x)=5$  and  $f(4)=5$ , or explain why this is impossible. \vskip 30pt Draw the graph of a function  $g(x)$  such that  $\lim_{x \rightarrow 4} g(x)=5$  and  $g(4)=4$ , or explain why this is impossible. \vskip 30pt Draw the graph of a function  $h(x)$  such that  $\lim_{x \rightarrow 4} h(x)=5$  and  $h(4)$  is undefined, or explain why this is impossible. \end{frame} \begin{frame} \Large Draw the graph of a function  $f(x)$  such that  $\lim_{x \rightarrow 6^-} f(x)=5$  and  $\lim_{x \rightarrow 6^+} f(x)=7$ , or explain why this is impossible. \vskip 30pt Draw the graph of a function  $g(x)$  such that  $\lim_{x \rightarrow 6^-} g(x)=5$  and  $\lim_{x \rightarrow 6^+} g(x)=7$  and  $g(6)=10$ , or explain why this is impossible. \vskip 30pt Draw the graph of a function  $h(x)$  such that  $\lim_{x \rightarrow 6^-} g(x)=5$  and  $\lim_{x \rightarrow 6^+} g(x)=5$  and  $\lim_{x \rightarrow 6} g(x)$  is undefined, or explain why this is impossible. \end{frame} \begin{frame} If all that you know about a function  $g(x)$  is that  $g(5)=-3$  and  $g'(5)=4$ , what is your best estimate of  $g(7)$ ? \end{frame} \end{document}
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From:

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