

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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