

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

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\begin{document} \begin{frame} Find the average value of each function on the given interval. \vskip
10pt \begin{enumerate}[a] \item $ f(x) = 10x - x^2 $ on the interval $ [0, 2] $ \vskip 15pt \item
$f(\theta) = 11 \sec^2(\theta/4)$ on the interval $ [0, \pi] $ \vskip 15pt \item $ h(x) = 7 \cos^4(x)\sin(x) $
on the interval $ [0, \pi] $ \end{enumerate} \end{frame} \begin{frame} Consider the function $$f(x) =
3\sqrt{x}$$ \begin{enumerate}[a] \item Find the average value $f_{\mbox{ave}}$ of $f$ on the
interval $[0, 16]$. \item Find all values $c$ such that $f_{\mbox{avg}} = f(c)$. \item Sketch the graph of
$f$ and, in the same picture, a rectangle whose area is the same as the area under the graph of $f$.
\end{enumerate} \end{frame} \begin{frame} Consider the function $$f(x) = (x-5)^2$$
\begin{enumerate}[a] \item Find the average value $f_{\mbox{ave}}$ of $f$ on the interval $[4,7]$.
\item Find all values $c$ such that $f_{\mbox{avg}} = f(c)$. \item Sketch the graph of $f$ and, in the
same picture, a rectangle whose area is the same as the area under the graph of $f$. \end{enumerate}
\end{frame} \begin{frame} Consider the function $$f(x) = 9 \sin(4x)$$ \begin{enumerate}[a] \item Find
the average value $f_{\mbox{ave}}$ of $f$ on the interval $[-\pi, \pi]$. \item Find all values $c$ such
that $f_{\mbox{avg}} = f(c)$. \item Sketch the graph of $f$ and, in the same picture, a rectangle whose
area is the same as the area under the graph of $f$. \end{enumerate} \end{frame} \begin{frame} Find
all numbers $b$ such that the average value of $$f(x) = 7 + 10x - 9x^2$$ on the interval $[0, b]$ is
equal to 8. \vskip 65pt The velocity $v$ of blood that flows in a blood vessel with radius $R$ and length
$L$ at a distance $r$ from the central axis is $$v(r) = \frac{P}{4\eta L}(R^2 - r^2)$$ where $P$ is the
pressure difference between the ends of the vessel and $\eta$ is the viscosity of the blood. Find the
average velocity (with respect to $r$) over the interval $0 \leq r \leq R$. \end{frame} \end{document}

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From:

<http://www2.math.binghamton.edu/> - Department of Mathematics and Statistics, Binghamton University

Permanent link:

http://www2.math.binghamton.edu/p/calculus/resources/calculus_flipped_resources/applications/5.5_average_tex

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