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

\begin{document} \begin{frame} \begin{block}{} \begin{center} {\LARGE {\bf True} or {\bf False}} \end{center} \end{block} \vskip 30pt If f is continuous on the interval $[a,b]$, then $$\displaystyle\int_a^b f(x)\,dx$$ is a number. \end{frame} \begin{frame} Find each of the following derivatives, or specify that you don't have enough information to do so. \begin{enumerate}[a)] \item $$\frac{d}{dx}\int_3^8 f(x)dx$$ \item $$\frac{d}{dx}\int_3^x f(t)\,dt$$ \item $$\frac{d}{dx}\int_x^3 f(t)\,dt$$ \item $$\frac{d}{dx}\int f(x)\,dx$$ \end{enumerate} \end{frame} \begin{frame} If $w'(t)$ is the rate of growth of a child in pounds per year, what does $\displaystyle\int_5^{11}w'(t)\,dt$ represent? \vskip 10pt \begin{enumerate}[a)] \item The child's initial weight at birth. \item The decrease in the child's weight (in pounds) between the ages of 5 and 11. \item The child's weight at age 5. \item The increase in the child's weight (in pounds) between the ages of 5 and 11. \item The child's weight at age 11. \end{enumerate} \end{frame} \begin{frame} The current in a wire is defined as the derivative of the charge $$I(t) = Q'(t)$$ What does $\displaystyle\int_a^b I(t)\,dt$ represent? \vskip 10pt \begin{enumerate}[a)] \item It represents the change in the current I from time $t=a$ to $t=b$. \item It represents the charge Q at time $t=b$. \item It represents the current I at time $t=b$. \item It represents the charge Q at time $t=a$. \item It represents the change in the charge Q from time $t=a$ to $t=b$. \end{enumerate} \end{frame} \begin{frame} Find the general indefinite integral. $$\int (8\sqrt{x^3}+9\sqrt[3]{x^2})dx$$ \vskip 75pt Find the particular indefinite integral of $\displaystyle\int (8\sqrt{x^3}+9\sqrt[3]{x^2})dx$ whose value at $x=0$ is 4. \end{frame} \begin{frame} Find the general indefinite integrals, and evaluate the definite integrals. \begin{columns} \begin{column}{0.5\textwidth} \begin{itemize} \item[\bf (i)] $\displaystyle\int 7v(v^2 + 8)^2\,dv$ \vskip 20pt \item[\bf (ii)] $\displaystyle\int_0^2 (6x-3)(4x^2+9)\,dx$ \vskip 20pt \item[\bf (iii)] $\displaystyle\int_0^2 (6x-3)(4x^2+9)\,dx$ \end{itemize} \end{column} \begin{column}{0.5\textwidth} \begin{itemize} \item[\bf (iv)] $\displaystyle\int_9^{16}\frac{3x-3}{\sqrt{x}}\,dx$ \vskip 20pt \item[\bf (v)] $\displaystyle\int_1^4 \sqrt{t}(5+7t)\,dt$ \vskip 20pt \item[\bf (vi)] $\displaystyle\int_{-1}^2 (x-6|x|)\,dx$ \end{itemize} \end{column} \end{columns} \end{frame} \begin{frame} Find the indefinite integrals and evaluate the definite integrals. \begin{columns} \begin{column}{0.5\textwidth} \begin{itemize} \item[\bf (i)] $\displaystyle\int 7(1+\tan^2(\alpha))\,d\alpha$ \vskip 20pt \item[\bf (ii)] $\displaystyle\int 5\frac{\sin(2x)}{\sin(x)}\,dx$ \vskip 20pt \item[\bf (iii)] $\displaystyle\int_0^\pi (4\sin(\theta)-17\cos(\theta))\,d\theta$ \end{itemize} \end{column} \begin{column}{0.5\textwidth} \begin{itemize} \item[\bf (iv)] $\displaystyle\int_0^{\frac{\pi}{4}}\frac{2+3\cos^2(\theta)} {cos^2(\theta)}\,d\theta$ \vskip 20pt \item[\bf (v)] $\displaystyle\int_0^{\frac{2\pi}{3}}\frac{7\sin(\theta)(1+\tan^2(\theta))} {\sec^2(\theta)}\,d\theta$ \vskip 20pt \item[\bf (vi)] $\displaystyle\int_0^{\frac{3\pi}{2}} 5|\sin(x)|\,dx$ \end{itemize} \end{column} \end{columns} \end{frame} \begin{frame} The velocity function (in meters per second) for a particle moving along a line is $$v(t) = 3t- 8$$ \begin{enumerate}[a)] \item Find the displacement. \item Find the distance traveled from time $t=0$ to time $t=4$. \end{enumerate} \vskip 60pt A particle is moving along a line so that its acceleration at time t is $a(t) = 2t + 2$ and its initial velocity is $v(0)=-3$. \begin{enumerate}[a)] \item Find the velocity at time t. \item Find the distance traveled from time $t=0$ to time $t=4$. \end{enumerate} \end{frame} \begin{frame} Water flows from the bottom of a storage tank at a rate of $r(t) = 400 - 8t$ liters per minute. Find the amount of water that flows from the tank during the first 30 minutes. \vskip 80pt Sketch the region bounded by the y-axis, the line $y=4$, and the curve $y=4\sqrt[4]{x}$. Find the area of this region in two ways: \begin{enumerate}[a)] \item by integrating an appropriate function of x, and \item by writing x as a function of y and integrating with respect to y. \end{enumerate} \end{frame} \end{document}