



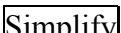

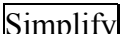





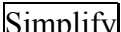
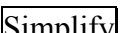






DERIVE - EXTRA CREDIT - CALCULUS 2 - Prof. Richard B. Goldstein

Using the **DERIVE** package in the labs do the following problems and print the results. Make the first expression (#1) your name by [F2] then “**your name**”. Everything shown within a box  is an icon or button and anything within brackets [] is a key.

PROBLEM	DERIVE
$\lim_{x \rightarrow \infty} \left(\frac{2x-3}{2x+1} \right)^{2x+3}$	<p>[F2], ((2x-3)/(2x+1))^(2x+3) [Enter] Press , enter ∞ or inf as the limit point, press </p> <p>Note : The symbol ^ is found above the 6 on the keyboard or in the symbol table it is between * and %.</p>
$\int \frac{dx}{\sqrt{x^2 + 4x + 8}}$	<p>[F2], 1/sqrt(x^2+4x+8) [Enter] Press , then press </p>
$\int \frac{\sqrt{x}}{\sqrt{x} - \sqrt[3]{x}} dx$	<p>[F2], sqrt(x)/(sqrt(x)-x^(1/3)) [Enter] Press , then press </p>
$\int_0^2 \frac{dx}{\sqrt{1+x^3}}$	<p>[F2], 1/sqrt(1+x^3) [Enter] Press ,  definite integral, lower limit 0, upper limit 2, and then press  Press  to approximate the integral</p>
$\int 6x^2 e^{x^3} dx$	<p>[F2], 6x^2exp(x^3), [Enter] Press , then press </p>
Taylor-Maclurin Series expansion of $\ln(e^{-x} + x^2)$	<p>[F2], ln(exp(-x)+x^2) [Enter] Select from the pull-down menu : Calculus Taylor Series... and use Variable: x, Expansion Point: 0, Order: 9 Press </p>
Find the length of $y = x^3 \sqrt{4-x}$ for $0 \leq x \leq 4$	<p><u>F</u>ile, <u>L</u>oad, <u>U</u>tilities, and select: Int_apps.mth from the Math folder [F2], arc_length(x(4-x)^(1/3),x,0,4) Press  to approximate the integral Use Ctrl + P or <u>F</u>ile <u>P</u>rint to print this page</p>
Graph curves defined by parametric equations $x = \cos t, y = \sin(t + \sin 5t)$	<p>[F2] [cos(t), sin(t+sin(5t))] Press  (go to 2-D plotting window) and press  again to plot It will check to see if the range -3.14... (-π) to 3.14...(π) is  Finally use Ctrl + P or <u>F</u>ile <u>P</u>rint to print this graphics page</p>