

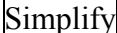



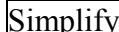

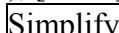

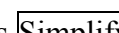






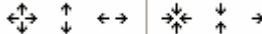



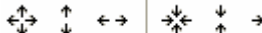




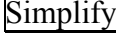


DERIVE - EXTRA CREDIT - CALCULUS 1 - Prof. Richard B. Goldstein

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
$\lim_{x \rightarrow 2} \frac{x^3 - 8}{x - 2}$	<p>[F2], (x^3-8)/(x-2), [Enter] Press , enter 2 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>
$\lim_{x \rightarrow 0} \frac{\sqrt{9+7x} - \sqrt{9-5x}}{x}$	<p>[F2], (sqrt(9+7x)-sqrt(9-5x))/x, [Enter] Press , enter 0 as the limit point, press </p>
$\frac{d}{dx} \frac{x^2 - x}{\sqrt{x^2 + 1}}$	<p>[F2], (x^2-x)/sqrt(x^2+1), [Enter] Press , then press </p>
$\frac{d}{dx} x^2 \ln(x^3 + 1)$	<p>[F2], x^2*ln(x^3+1), [Enter] Press , then press </p>
$\int 6x^2 e^{x^3} dx$	<p>[F2], 6x^2exp(x^3), [Enter] Press , then press </p>
$\int_0^3 \frac{6t}{\sqrt{t^3+9}} dt$	<p>[F2], 6t/sqrt(t^3+9), [Enter] Press ,  definite integral, lower limit 0, upper limit 3, and then press  Press  to approximate the integral</p>
$x^3 - 9x^2 + 7x + 10$	<p>[F2], x^3-9x^2+7x+10, [Enter] Press  (go to 2-D plotting window) and press  again to plot. Adjust using  until the max & min are visible. Return to the algebra window by </p>
$\frac{4x^3}{(x-2)^2(x+1)}$	<p>[F2], 4x^3/((x-2)^2(x+1)), [ENTER] Press  (go to 2-D plotting window) and press  again to plot. Adjust using  Use Ctrl + P or File Print to print this graphics page. Return to the algebra window by </p>
<p>Find the implicit derivative of $y^3 + y^2 - 5y - x^2 + 4 = 0$ at the point (1,-3)</p>	<p>File, Load, Utilities, and select: Dif_apps.mth from the Math folder [F2], y^3+y^2-5y-x^2+4, [Enter] [F2], imp_dif(#xx,x,y,1) where #xx is above expression Press  to get the algebraic expression. Use  ..., set x to 1 and y to -3 and press  Use Ctrl + P or File Print to print this algebraic page.</p>