

Math 291
Lab 1

Intructions: Use L^AT_EX to typeset a document containing each component described below. Turn in your lab by emailing it to jamesju@mnstate.edu. You should email both your raw .tex file and your compiled document (in either .ps or .pdf form). You will be graded on both your raw TeX code and the accuracy of your compiled document.

1. Make a Title Block for your lab containing your name, the name and course number for this class, the date, and “L^AT_EX Lab 1”. Your title block should be centered on the page. This title block should appear on all future labs.
2. Typeset the following mathematical formulae:

(a) $7x^5 - 3x^2$

(b) $5x^{12} - 3x^7 + \frac{7}{13}x^5 = x^2(4x^{11} - 6x^3 + 17)$

(c) $f(x, y, z) = x^3y^2z - x^5yz^3 - 7z^{2xy}$

(d) $f(x_1, x_2) = x_2^3x_1^4$

(e) $\frac{1}{4} + \frac{1}{3} = \frac{7}{12}$

(f) $\frac{x^2+5x-3}{x+1}$

(g) $\frac{d}{dx}e^x = e^x$

(h) $\frac{d}{dx}x^n = nx^{n-1}$

(i) e^{x^2+1}

(j) $\frac{\frac{1}{x-1} + \frac{1}{x}}{\frac{1}{x+1} - \frac{1}{x}}$

(k) $\frac{1}{e^x} - e^{\frac{1}{x}} + \frac{1}{e^{\frac{1}{x}}} - e^{e^x} + e^{e^{e^x}}$

(l) $\lim_{x \rightarrow 1} f(x) = f(1)$

Note: The command for limit is:

`\lim`

- (m) Typeset the previous expression again, except surround it with \$\$ instead of just one \$.

(n) $A = \pi r^2$

Note: The command for π is:

`\pi`

(o) $V = \frac{4}{3}\pi r^3$