

Math 290
Week 1 Lab

Intructions: Use \LaTeX 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. Making a Title Page for your lab containing your name, the name of this class, the date, and “ \LaTeX Lab Week 1”. Your title block should be centered on the page.

2. Typeset the following mathematical formulae:

(a) $4x^2 - 12x^3$

(b) $3x^{12} - x^4 + \frac{5}{7}x^2 = x^2(7x^{11} - x^3 + 15)$

(c) $f(x, y) = x^2y - xy^2 + x^3y$

(d) $f(x_1, x_2, x_3) = x_1^2x_2^3x_3^4$

(e) $\frac{1}{2} - \frac{1}{3} = \frac{1}{6}$

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

(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) $\lim_{x \rightarrow 1} f(x) = f(1)$ The command for limit is:

$\backslash\lim$

(m) Typeset the previous one again except surround it by $\$$ instead of just one $\$$.

(n) $A = \pi r^2$ The command for π is:

$\backslash\pi$

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