

Math 291
Lab 2

Intructions: Use L^AT_EX to typeset a document containing each component described below. Turn in your lab in D2L Brightspace. You should submit both your raw TeX (.tex) file and your compiled document (in either .dvi or .ps or .pdf form). Do *not* submit a .zip file.

You will be graded on both your raw TeX code and the accuracy of your compiled document. **Don't forget to include Lab2 in your filename and include a four-line name block similar to the one you did for Lab 1.**

1. In the preamble of your document, put in commands that give your final document the following properties:

- Make the document class “article”, the font size 11 point and the paper size “letter”.
- Include the packages: amsmath, amssymb, amsfonts, latexsym, color, enumerate
- Make the height of the text area of your pages 6.75 inches.
- Make the top margin 0.5 inches.
- Adjust both the oddside margin and the text width so that the document looks obviously shifted to the right side of the page (so not centered), but without anything falling off of the page. Note: This is typically done by publishers of hard-copy books to allow for the binding.
- Then type the following in the body of your document:

```
\begin{enumerate}
\item The first part is done.
\item This starts the second problem.
\begin{enumerate}
\item
\end{enumerate}
\item This starts the third problem.
\end{enumerate}
```

2. Typeset the following text [It is up to you to figure out the proper font to use for each part below. All fonts used were either mentioned in class, or have a shortcut button in TeXnicCenter]. Put the command for the first of these after the \item above that otherwise has nothing after it. Then type a new \item for each of parts (b) through (e).

(a) **Five exclamation marks, the sure sign of an insane mind!!!!**

(b) *But when I want to emphasize something...*

(c) This font might be used to indicate a direct quote from an old-ish source.

(d) *THIS TYPE FACE IS CURRRVY.*

[I used the command \, to put space between these words since this font is only available in a Math environment. Same with the problem below.]

(e) **THIS FONT IS REAL.**

3. Typeset each of the following expressions. You will need to hunt down some special symbols for most of these. Also make sure that they are put in the enumerate environment that you have started to naturally come out in number 3 as parts (a) through (j).

(a) $\Omega \Rightarrow \infty$

(b) $\beta_\gamma = \{V, E\}$

(c) $(\forall x \in A)(\exists y \ni \neg B)$

(d) $[(A \cup B) \cap C] \subseteq (A \cap B) \cup (A \cap C)$

(e) $(\vec{v} \times \vec{w}) \cdot \vec{u}$

(f) $\frac{\sqrt[3]{x^4 - y^5}}{\sum \epsilon_j}$

(g) $\int_0^1 \int_{x^3}^{5x-1} e^{2xy} dy dx$

(h) $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

(i) $\rightarrow \longrightarrow \nearrow \searrow \swarrow \nwarrow |$

(j) $\leq \prec \lhd \triangleright \delta \nabla$

[Note: The quote in #2a is from Terry Pratchett in the book “Reaper Man”.]