

USEFUL FONTS AND OTHER HINTS,
(IF YOU USE L^AT_EX FOR PROBABILITY HOMEWORK)

See the source file *fonts.tex* (or the listing at the end of this document) for the way to get access to these fonts. It involves packages *amsfonts*, *euscript*, and *eufrak*, which are all included with the standard L^AT_EX distribution.

- Blackboard bold (mathbb):

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

- Calligraphic (Euscript):

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

- Fraktur (Eufrak), looks fancy but can be hard to decipher:

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm
Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz

Some bad things.

- A distinction to note: use $\epsilon \in \mathbb{R}$ for $\epsilon \in \mathbb{R}$. Please don't use ϵ where you mean $\in$. And while I am at it: What's wrong with $\sqrt{2} \subset \mathbb{R} \setminus \mathbb{Q}$ and $\mathbb{Q} \in \mathbb{R}$?
- Don't type $x = \frac{\frac{a}{b}}{\frac{c}{d}}$. It will give the monstrosity

$$x = \frac{\frac{a}{b}}{\frac{c}{d}}$$

Better to try something like

$$x = \frac{a/b}{c/d}$$

- Similarly, $x^{\frac{a}{b}}$ is better written as $x^{a/b}$.

- My eyes have trouble with deeply nested sub- or superscripts, as in expressions like $x_{i_{j_{k_\ell}}}$ or $\int_{A_i g_3}$.
- And what does
 $\therefore$ I live in Connecticut, but head south in September
 $\because$ the sky is blue
 $\therefore$ I like summer
 $\because$ it is too cold in winter, ...”
mean? What does the first $\therefore$ refer to? Please resist the urge to hand in homework that consists of strings of equations linked by $\therefore$'s and $\because$'s. It can get very hard to decipher. Dana and I will be most unhappy. 
- Mathematics and sentences: “Define $x = 3y$. $w > z$ and ...”. Is the period between y and w a multiplication or the end of the sentence? In general, try to avoid starting a sentence with a mathematical symbol.

```
% file: fonts.tex
\documentclass[11pt]{article}

\usepackage{tikzsymbols}
\usepackage{moreverb}

\usepackage{amsmath,amssymb,amsfonts}
%amsfonts give blackboard bold:
\def\AA{{\mathbb A}}\def\BB{{\mathbb B}}\def\CC{{\mathbb C}}
\def\DD{{\mathbb D}}\def\EE{{\mathbb E}}\def\FF{{\mathbb F}}
\def\GG{{\mathbb G}}\def\HH{{\mathbb H}}\def\II{{\mathbb I}}
\def\JJ{{\mathbb J}}\def\KK{{\mathbb K}}\def\LL{{\mathbb L}}
\def\MM{{\mathbb M}}\def\NN{{\mathbb N}}\def\OO{{\mathbb O}}
\def\PP{{\mathbb P}}\def\QQ{{\mathbb Q}}\def\RR{{\mathbb R}}
\def\SS{{\mathbb S}}\def\TT{{\mathbb T}}\def\UU{{\mathbb U}}
\def\VV{{\mathbb V}}\def\WW{{\mathbb W}}\def\XX{{\mathbb X}}
\def\YY{{\mathbb Y}}\def\ZZ{{\mathbb Z}}

\usepackage{euscript}
\let\muchmore= \gg
\let\muchless= \ll
\let\typewriter=\tt % for turning on the typewriter font
\def\aa{{\EuScript A}}\def\bb{{\EuScript B}}\def\cc{{\EuScript C}}\def\dd{{\EuScript D}}
\def\ee{{\EuScript E}}\def\ff{{\EuScript F}}\def\gg{{\EuScript G}}\def\hh{{\EuScript H}}
\def\ii{{\EuScript I}}\def\jj{{\EuScript J}}\def\kk{{\EuScript K}}\def\ll{{\EuScript L}}
\def\mm{{\EuScript M}}\def\nn{{\EuScript N}}\def\oo{{\EuScript O}}\def\pp{{\EuScript P}}
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\def\qq{{\EuScript Q}}\def\rr{{\EuScript R}}\def\ss{{\EuScript S}}\def\tt{{\EuScript T}}
\def\uu{{\EuScript U}}\def\vv{{\EuScript V}}\def\ww{{\EuScript W}}\def\xx{{\EuScript X}}
\def\yy{{\EuScript Y}}\def\zz{{\EuScript Z}}

\usepackage{eufrak} % Fraktur

\parindent=0pt
\parskip=4pt

\begin{document}
\begin{center}
{\scshape Useful fonts and other hints,\
(if you use \LaTeX\ for probability homework)}
\end{center}

\bigskip
See the source file {\itshape fonts.tex\}/
(or the listing at the end of this document)
for the way to get access to these fonts. It involves packages
{\em amsfonts}, {\em euscript}, and {\em eufrak},
which are all included with the standard \LaTeX\ distribution.

\begin{itemize}

\item
Blackboard bold (mathbb):
$$
\AA \quad \BB \quad \CC \quad \DD \quad \EE \quad \FF \quad
\GG \quad \HH \quad \II \quad \JJ \quad \KK \quad \LL \quad \MM
$$
$$
\NN \quad \OO \quad \PP \quad \QQ \quad \RR \quad \SS \quad
\TT \quad \UU \quad \VV \quad \WW \quad \XX \quad \YY \quad \ZZ
$$

\item
Calligraphic (Euscript):
$$
\aa \quad \bb \quad \cc \quad \dd \quad \ee \quad \ff \quad
\gg \quad \hh \quad \ii \quad \jj \quad \kk \quad \ll \quad \mm
$$
$$
\nn \quad \oo \quad \pp \quad \qq \quad \rr \quad \ss \quad

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$\tt\quad \uu\quad vv\quad ww\quad xx\quad yy\quad zz$
 $\$$

$\item$
 Fraktur (Eufrak), $\$ \text{\EuFrak{looks\ fancy\ but\ can\ be\ hard\ to\ decipher}} \$$:
 $\$$
 $\text{\EuFrak{ A a\quad Bb\quad Cc\quad Dd\quad Ee \quad Ff\quad Gg\quad Hh \quad Ii\quad Jj\quad Kk\quad Ll\quad Mm}}$
 $\$$
 $\$$
 $\text{\EuFrak{ Nn\quad Oo\quad Pp\quad Qq\quad Rr \quad Ss \quad Tt \quad Uu\quad Vv\quad Ww \quad Xx\quad Yy \quad Zz}}$
 $\$$

$\end{itemize}$

Some bad things.
 $\begin{itemize}$
 $\item$ A distinction to note: use $\verb!\$\epsilon\in\RR!$ for $\epsilon\in\RR$.
 Please don't use $\sim\epsilon$ where you mean $\in$.
 And while I am at it:
 What's wrong with $\sqrt{2}\subset\RR\backslash\mathbb{Q}$ and $\mathbb{Q}\in\RR$?

$\item$
 Don't type $\verb!\$x=\frac{\frac{a}{b}}{\frac{c}{d}}!\$$.
 It will give the monstrosity
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 $x=\frac{\frac{a}{b}}{\frac{c}{d}}$
 $\$$
 Better to try something like
 $\$$
 $x=\frac{a/b}{c/d}$
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$\item$
 Similarly, $x^{\frac{a}{b}}$ is better written as $x^{a/b}$.

$\item$
 My eyes have trouble with deeply nested sub- or superscripts, as in expressions like $x_{i_{j_{k_{\ell}}}}^{}$ or $\int_{A_{i^g_3}}$.

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\item And what does\\
  ‘‘ $\therefore$  I live in Connecticut, but head south in September\\
 $\because$  the sky is blue\\
 $\therefore$  I like summer\\
 $\because$  it is too cold in winter,  $\dots$ ’’ \\
mean? What does the first  $\because$  refer to?
Please resist the urge to hand in homework that consists of
strings of equations linked by  $\therefore$ ’s
and  $\because$ ’s.
It can get very hard to decipher.
Dana and I will be most unhappy.\marginpar{\Sadey[3][red]}

\item Mathematics and sentences: ‘‘Define  $x=3y$ .  $w>z$  and  $\dots$  ’’.
Is the period between  $y$  and  $w$  a multiplication or the end
of the sentence?
In general, try to avoid starting a sentence with a mathematical symbol.
\end{itemize}

\bigskip

\small
\verbatiminput{fonts.tex}
\end{document}

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