David G Cooper
Tools

LaTeX

1. Common usage:

bold and italic

$$p(n) = \sum_{i=0}^{d} a_i n^i,$$

$$q(n) = \prod_{i=0}^{d} a_i n^i,$$

$$q(n) = \operatorname*{boy}_{i=0}^{d} a_i n^i,$$

$$q(n) = \operatorname*{cos}_{i=0}^{d} a_i n^i,$$

⟨***a.*** $x = 1$ if I want to write text normally, and $x = 0$ if I want smaller text

⟨***b.***

$$AX = \begin{pmatrix} x & = & 1 \text{ if I want to write text normally, and} \\ (center) & (right) & (left) \text{ if I want smaller text} \end{pmatrix}$$

careful not to type too much using arrays and tables because you m

⟨***c.*** $\left\{ \frac{12}{ten} \right]$ *nextline*?

⟨***d.*** $\left\{ \dfrac{12}{ten} \right]$

⟨***e.***

$$\left\{ \frac{12}{ten} \right] nextline?$$

⟨***f.***

$$\frac{12}{ten} \Big\} = x$$

⟨***g.***

$$\frac{12}{ten} \right] \tag{1}$$

2. Table

Table 1: nothing

∞ = infinity

	A	B	O	o	Ω	ω	Θ
a.	a	b	$5+2/3$	$\leftarrow$	math		
b.	a	b					
c.	a	b					
d.	a	b					
e.	a	b					
f.	a	b					

	A	B	O	o	Ω	ω	Θ
a.	a	b	$5+2/3$	$\leftarrow$	math		
b.	a	b					
c.	a	b					
d.	a	b					
e.	a	b					
f.	a	b					

Table 2: a table

a. `$ \alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \phi, \chi, \psi, \omega$`

$\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \phi, \chi, \psi, \omega$

`$ \Gamma, \Delta, \Epsilon, \Zeta, \Eta, \Theta, \Iota, \Kappa, \Lambda, \Mu, \Nu, \Xi, \Phi, \Chi, \Psi, \Omega$`

$\Gamma, \Delta, \Theta, \Lambda, \Xi, \Phi, \Psi, \Omega$

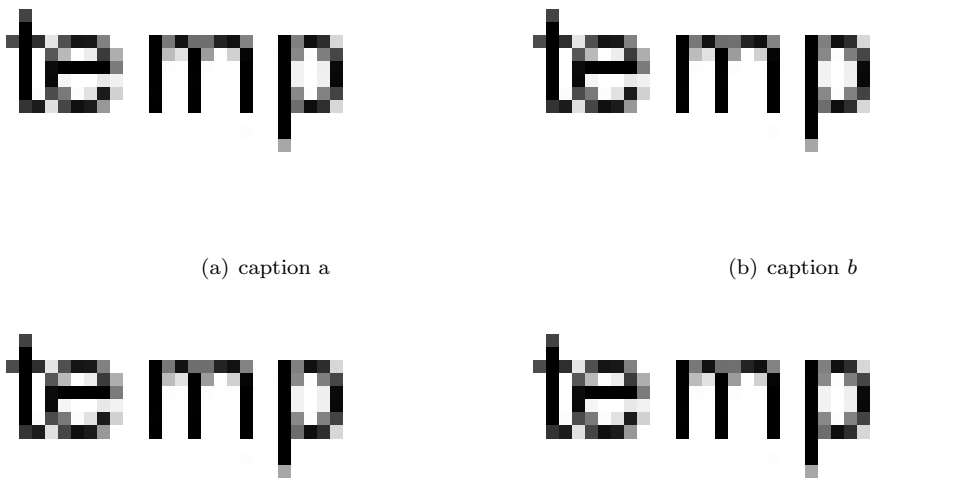
For a better look at math symbols, go to

http://web.ift.uib.no/Fysisk/Teori/KURS/WRK/TeX/symALL.html

b. a picture.

Figure 1: a caption at the top

c. a multipicture:



(a) caption a

(b) caption *b*

(c) **another caption**

Figure 2: a caption for the whole figure.

Now here is the above file:

```
\documentclass{article}

\oddsidemargin=.25in
\evensidemargin=.25in
\textwidth=6in
\topmargin=-.25in
\textheight=8.5in

\usepackage[pdftex]{graphicx}

\usepackage{amsfonts}
\usepackage{amssymb}
\usepackage{setspace}
\usepackage{subfigure}

%\usepackage{pslatex}

%\usepackage{epstopdf}
%\DeclareGraphicsRule{.tif}{png}{.png}{`convert #1 `dirname #1`/`basename #1 .tif`.png}
```

```
\onehalfspacing
\parindent=0in
%\pagestyle{plain}

\begin{document}



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\subsection*{LaTeX}

\begin{enumerate}


% this is a comment
% enumerate gives arabic numerals
\item  Common usage:

%\bf - bold face
%\emph - emphasis
{\bf\emph{bold and italic}}

%A sum with limits on top and bottom
$p(n) = \displaystyle{\sum_{i=0}^{d}a_{i}n^{i}}$,

%A product with limits to the right of the product
$q(n) = \prod_{i=0}^{d}a_{i}n^{i}$,

%A made up value with limits on top and bottom
$q(n) = \mathop{\textnormal{boy}}\limits_{i=0}^{d}a_{i}n^{i}$,

% limits on top and bottom without \displaystyle
$q(n) = \cos\limits_{i=0}^{d}a_{i}n^{i}$,

% a specialized counter using letters begining with a left angle brace and followed by a period
\newcounter{aCount}
\begin{list}{{\bf\emph{$\langle$\alph{aCount}.}}}{\usecounter{aCount}}
```

```
%
\item $x=1 \textnormal{ if I want to write text normally, and }
x = 0 ^{\textnormal{ \scriptsize  if I want smaller text}}$

\item \[
A \\ X = \left( %notice how there is no line break between this and the next line so they stay on
              %the same line
              % also \\ works differently in different math modes.
\begin{array}{crl}
 x & =  & 1  \textnormal{ if I want to write text normally, and } \\
 (center) & (right)  &  (left) ^{\textnormal{ \scriptsize  if I want smaller text}} \\
  &   &  \textnormal{\large careful not to type too much using arrays and tables because you
   might lose your message}
\end{array}
\right)
\]

%fractions are nice:
\item $\left\{ \frac{12}{ten}  \right]  \\ nextline?$

%sometimes you want them a little bigger
\item $\displaystyle{\left\{ \frac{12}{ten} \right]}$


%fractions are nice:
\item $$\left\{ \frac{12}{ten} \right] \\ nextline?$$


%fractions are nice:
\item \[ \left. \frac{12}{ten} \right\} = x \]


\item \begin{equation}
\left.\frac{12}{ten} \right]
\end{equation}

\end{list}

\pagebreak
\item Table
```

```
\begin{table*}[htdp]
\caption{nothing}
\begin{center}
$\infty$ = infinity

\begin{tabular}{lcc|c|c|c|c|c|}
& $A$ & $B$ &$O$ &$o$ & $\Omega$ & $\omega$ & $\Theta$ \\ \hline
{\bf\emph{a.}} & a & b & $5+2/3$  & $\leftarrow$  & math  &  &   \\ \hline
{\bf\emph{b.}} & a & b &  &  &  &  &   \\ \hline
{\bf\emph{c.}} & a & b &  &  &  &  &   \\ \hline
{\bf\emph{d.}} & a & b &  &  &  &  &   \\ \hline
{\bf\emph{e.}} & a & b &  &  &  &  &   \\ \hline
{\bf\emph{f.}} & a & b &  &  &  &  &   \\ \hline
\end{tabular}
\end{center}

\begin{tabular}{lcc|c|c|c|c|c|}
& $A$ & $B$ &$O$ &$o$ & $\Omega$ & $\omega$ & $\Theta$ \\ \hline
{\bf\emph{a.}} & a & b & $5+2/3$  & $\leftarrow$  & math  &  &   \\ \hline
{\bf\emph{b.}} & a & b &  &  &  &  &   \\ \hline
{\bf\emph{c.}} & a & b &  &  &  &  &   \\ \hline
{\bf\emph{d.}} & a & b &  &  &  &  &   \\ \hline
{\bf\emph{e.}} & a & b &  &  &  &  &   \\ \hline
{\bf\emph{f.}} & a & b &  &  &  &  &   \\ \hline
\end{tabular}

\caption{a table}
\label{default}
\end{table*}%

\begin{list}{{\bf\emph{\alph{aCount}.}}}{\usecounter{aCount}}

%
\item

$ \alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda,
 \mu,  \nu, \xi,  \phi,   \chi,   \psi,   \omega$

$ \alpha,
\beta,
```

```
\gamma,
\delta,
\epsilon,
\zeta,
\eta,
\theta,
\iota,
\kappa,
\lambda,
 \mu,
 \nu,
 \xi,
  \phi,
  \chi,
  \psi,
  \omega$

$ \Gamma, \Delta, \Epsilon, \Zeta, \Eta, \Theta, \Iota, \Kappa, \Lambda,
 \Mu,  \Nu, \Xi,  \Phi,   \Chi,   \Psi,   \Omega$

$
\Gamma,
\Delta,
\Theta,
\Lambda,
 \Xi,
  \Phi,
  \Psi,
  \Omega$

  For a better look at math symbols, go to

  http://web.ift.uib.no/Fysisk/Teori/KURS/WRK/TeX/symALL.html

%
\item a picture.

\begin{figure}[h]
\caption{a caption at the top}
\begin{center}
\includegraphics[width=1in]{temp.jpg}
```

```
\label{default}
\end{center}
\end{figure}

\item a multipicture:

\begin{figure*}[ht]
  \begin{center}
    \subfigure[caption a]{\label{fig:edge-a}\includegraphics[width=.45\textwidth]{temp.pdf}}
    \subfigure[caption $b$]{\label{fig:edge-b}\includegraphics[width=.45\textwidth]{temp.pdf}} \\
    \subfigure[\bf{another caption}]{\label{fig:edge-c}\includegraphics[width=.45\textwidth]
    {temp.pdf}}
    \subfigure{\label{fig:edge-d}\includegraphics[width=.45\textwidth]{temp.pdf}}
  \end{center}
  \caption{a caption for the whole figure.}
  \label{fig:my figure}
\end{figure*}



\end{enumerate}




\end{document}
```