

Sample - Inserting Figures

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1 Introduction

This is a sample write up to show you how to insert figures into your \LaTeX file. We need to tell the \LaTeX software how to put the figures in, so the first thing is, under `\documentclass`, put `\usepackage{graphicx}` For example, the following two lines should always be the first two lines in your document:

```
\documentclass{amsart}
\usepackage{graphicx}
```

2 Figures and Talking About Figures

First, open Maple and create a figure by plotting the sine wave for x between $-\pi$ and 3π :

```
plot(sin(2*x),x=-Pi..3*Pi);
```

Right-click your mouse on the figure (in Maple), and choose **Export**, then we will export the file as an encapsulated Postscript (eps) file. That is, save the figure to `SineWave.eps`.

The code we type into our \LaTeX document looks like this:

```
\begin{figure}
\centering
\includegraphics[height=2.5in]{SineWave}
\caption{Your caption should be descriptive enough so that the
reader can tell (without looking through the whole text) why the
figure is here and what we're looking at.}
\label{Fig1}
\end{figure}
```

After you have saved the figure in the same directory as this tex file, we can try to compile the \LaTeX code by pressing the \LaTeX button. You should see Figure 1 with the sine wave.

If you have a lot of graphs but you do not want a separate figure for each, you can put multiple graphs in the same figure. We would just change the \LaTeX code to the following, which gives the result in Figure 2.

Figure 1: Your caption should be descriptive enough so that the reader can tell (without looking through the whole text) why the figure is here and what we're looking at.

Figure 2: Here we are simply repeating the sine wave graph to illustrate how to put multiple graphs in one Figure.

```
\begin{figure}
\centering
\includegraphics[height=2.5in]{SineWave}
\includegraphics[height=2.5in]{SineWave}
\caption{Here we are simply repeating the sine wave graph to illustrate
how to put multiple graphs in one Figure.}
\label{Fig2}
\end{figure}
```

3 Tips to Remember

- Be sure that your `labels` are different for each figure.
- You should never use the phrase: “See the figure below” or things similar- Let `LATEX` do the referencing for you: “**See Figure `\ref{XX}`.**”
- Captioning is important- Remember the reader as you put down the description.
- Do not force the placement of your figures- Let `LATEX` put them where it thinks they should go. There are some ways around that- we'll talk about them later.