

# Project 9

Instructions: Create a file containing text and mathematics of your choice that demonstrates three typesetting style files. Your document should include some basic instructions on how to employ the style files as well as some examples of their use. Some or all of your document contents will be shared with the other students in the class so that all students may review your instructions and examples. Submit .rap and .pdf (or .dvi) versions of your file to [tepric@uakron.edu](mailto:tepric@uakron.edu). The name of your files should be of the form `yourlastname09.rap` and `yourlastname09.pdf(dvi)`. All calculations should be done using the CAS in SWP.

## 1 Geometry

The first package I will present is the geometry package. This is a very important package that has been presented briefly in a previous lesson (changing the margins). However, this package can be used for many more important alterations. I will now present some of the alterations and how they will be done. They will be seen in the .pdf package. Now, the geometry package needs to be added. This can be done by navigating to the *Typeset* menu and then to *Options and Packages*. Then from here *Add*, and choose the geometry package.

### 1.1 Margins

First, the margins will be changed. This is very simple. First, navigate to the *Preamble* under *Typeset*. Now, enter the command:

```
\geometry{margin=0.5cm}
```

This simple command changes the margins of the .pdf file to 0.5cm.

### 1.2 Paper Size

Now, the paper size of the .pdf file can be changed easily. Navigate to *Typeset* menu and then to *Options and Packages*. Then, one can modify the geometry package. Then, under the *Paper size* one can change the .pdf size. I have chosen *b6paper*.

### 1.3 Landscape

Next, the .pdf file can be changed so it is in landscape. This can be found in the same location he paper size, and then choosing orientation. This could be very useful if you were doing a presentation that had many graphs. Often graphs are needas t to be put in landscape form to show the whole graph without distortion.

### 1.4 Header and Footer

Now, room for the header and footer can be included. This can be done by navigating as the previous example. However, I will include the header and footer by including a command in the *Preamble*. The command is simple:

```
\geometry{includeheadfoot}
```

This simple command will include room for the header and footer for the .pdf document.

## 1.5 Font Size

Next, the font can be made two times or any other times bigger by a simple command. This command is once again entered into the *Preamble*. The command is:

```
\geometry{mag=500, truedimen}
```

This makes the font .5 times smaller. To make it 2 times bigger, a value of 2000 would be used.

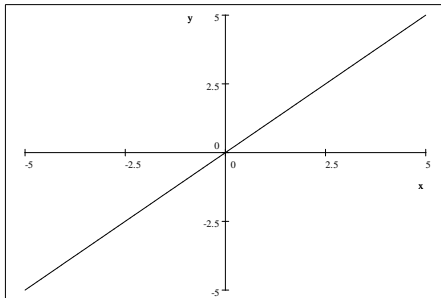
## 1.6 Columns

Now, for my last tip, although this is far from the total capabilities of the geometry package, I will describe how to make the .pdf file contain two columns. Once again, navigate to the *Typeset* menu and then to the *Options and Packages*. Then, one can modify the geometry package. Now, under the *Columns* option one can change it to *Two column*.

**Conclusion 1** *Now, although this style is easy to manipulate, I feel it is a very important package to understand and use. When creating documents and papers, it can make the image of your paper seem more classy and well-defined. This is very important in the business type of world we live in today. Other options such as two-sided can be used to alter the .pdf file even more. I would suggest to anyone who is familiar with this program to experiment with the package and obtain a format they would seem fit if they were to print a document for publishing or distributing.*

## 2 Wrap Figure

Now, as suggested, I will attempt to use the wrap figure package. It seems to be a nice package to learn how to use. This package was created because there were no models that allowed text to flow around graphics. Well, lets see if it works.



Did it work??? I think it didn't. This didn't work the first time because of a few things. First, I had text before the start wrapfigure. This caused the text to be spaced in a justify mode on a line above the graph. This made the document look awkward. Next, I forgot to alter the geometry package in order to enable this. In the geometry package, found above, one must go to the modify section, and then to *Sides*, and then change the option to *Two sided*. After doing this the above picture has this text to the right of it. Now, what code did I used you may ask. Well, for the **start wrapfigure** i used:

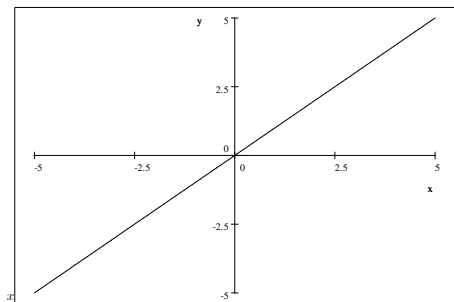
and for the **endwrapfigure**:

```
\end{wrapfigure}
```

Notice that in the above example, the text appears to the right of the image. This can easily be changed by changing the `start wrapfigure` command to:

```
\begin{wrapfigure}{o}{0in}
```

Now, it is necessary that I also changed these commands to encapsulated and made the graphic in line. This has been discussed in previous lessons. Well, now lets see if we can play around with the package to get the text or image at different places. Here we go:



Did this do anything. Once again, depending on whether we use an "o" or an "i," the image will appear on the outside of the column or on the inside margin. This means, if it appearing in the left column on the page, outside will put the text to the right and inside will put the text to the left. Inside or outside deals with the inside margin. For this last image, I used an "o" so it will appear on the outside margin in the .pdf format.

Now, lets see what happens if we change the number in the code. Well, lets try it and see what happens. Here I changed the number from a "0" to a "2." As can be

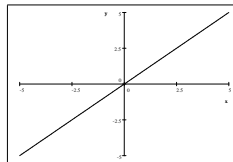
seen, when text is beside the picture, it can be moved by simply changing the number.

The question now becomes, why would one want that feature. Well, one can make it so the text overlaps the image, or so the text appears a length that is far enough from the image to satisfy the user. Once again, this is a very nice feature in order to clean up ones .pdf for presentation. This wrapfigure feature is great to use hand in hand with the geometry package to make a .pdf file worthy of presentation or publication. Note: I chose "2" in order to show that the text can overlap the picture. Although this does not look nice, I wanted to illustrate this feature.

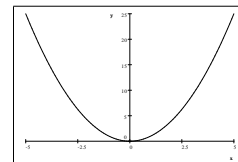
**Conclusion 2** *This concludes my discussion on the wrap figure package. Although it took some time to learn how to use, once once figures out how to use it, the feature becomes trivial but useful. This feature is great for maximizing space used and not having wasted white space throughout a document. Also, one can make it so his or her information related to the image is directly beside, or on top of, the image. Therefore, everyone should learn to use this package and it once again adds to the presentation capabilities of SWP.*

## 2.1 Subfigures

Well, I was going to attempt to use a different package, but I tried to use subfigures just messing around and struggled with it. Thus, I am going to attempt it again and hopefully figure it out. This way I can help anyone who has the same problems as me. Well first, let me just try to make a basic subfigure.



(a) My first figure.



(b) My second figure.

Figure 1: Two Figures