SAMPLE FILE

YOUR NAME HERE

You can delete all of this text and just start typing, but I am going to include a few examples. Paragraphs are separated by a single blank line. If you type some words they are arranged on the page in a paragraph form.

Mostly, if you want to do something that you haven't done before in LaTeX, then you can easily find how to do this in Google. Just ask a question such as '*how do I insert a picture in latex?*' or '**what is the command for the symbol theta in latex?**' or 'how do I make a list in latex?'

Here is a good reference for the answer to the last question

https://www.overleaf.com/learn/latex/Lists

An equation surrounded by a $ on either side such as `$\frac{n(n+1)}{2}$` produces the equation $\frac{n(n+1)}{2}$ as part of the text (this is called an 'in-line equation'). If you want an equation of the text or a formula on a separate line like

$$\sqrt{\sqrt{2} + \frac{\sqrt{3}\sqrt{5}}{2}}$$

then you need to surround it by a double dollar sign.

But beware. Just because the formula looks pretty does not mean that it is correct. If you would like to number your equations you can wrap your equation in a `\begin{equation}` and `\end{equation}` and a command `\label{myequationname}` doesn't cause the equation to be labeled, it just makes LaTeX remember what the equation number is.

$$1^3 + 2^3 + 3^3 + \cdots + n^3 = \frac{n(n+1)^2(n+2)}{12} \tag{1}$$

That way if you want to refer to the equation later you just write `\eqref{myequationname}` and then you can point out that when $n = 2$ the left hand side of equation (1) is equal to 9 while the right hand side of equation (1) is equal to 6 (and hence it is not true in general).

Instead the equation should read

$$1^3 + 2^3 + 3^3 + \cdots + n^3 = \frac{n^2(n+1)^2}{4} \ . \tag{2}$$

Just make sure you give a different name to each equation. At least for $n = 2$ the right hand side of equation (2) is also equal to 9.