An exercise in LaTeX

Your Name Here

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You're about to start your GSNS Master courses, and with this sample file and presentation, we hope to teach you some skills to make that easier.

With LaTeX you can make *your mathematical expressions look as fancy as the professionals*, they also use LaTeX.

To be a proper LaTeX user, you don't type "LaTeX", but you make it look like LaTeX. You do this with the command `\LaTeX`. Now, you can make this pdf even better by changing this everywhere.

Most people know Einstein's work as $E = mc^2$. Little does nearly anyone know his "spacetime formula" to be

$$G_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}. \tag{1}$$

Some useful equations[1] for your master courses might be:

$$P(a|c) = \frac{P(c|a) \cdot P(a)}{P(c)} \tag{2}$$

$$f(x) = \sum_{i=1}^{n} m_i x_i + b \tag{3}$$

$$J(\theta_0, \theta_1) = \frac{1}{2m} \sum_{i=1}^{m} \left(h_\theta(x^i) - (y^i) \right)^2 \tag{4}$$

$$A = P\left(1 + \frac{r}{n}\right)^{nt} \tag{5}$$

$$\frac{DT}{Dt} = \frac{1}{\rho c_p} \frac{Dp}{Dt} + \frac{1}{c_p} \frac{Dq}{Dt} \tag{6}$$

$$G_m = \sqrt{Sy^2 + Sx^2} \tag{7}$$

[1] Keep in mind the composers of this file are only familiar with a few master courses, the rest comes from a search engine.

1 Some more useful LaTeX

This is a section. If you don't like the indent on the next sentence, try putting `\noindent` in front, or (to eliminate all such indents, import the `parskip` package).

Pay attention to the symbols in the following sentence:
In 2014, 11% of Americans (& 100% of all cats) were found to think HTML is the name of a disease! That survey must have cost some money $$$, but the clickbait made up for it. Also be careful when using the accolades (also affectionately known as curly brackets): { }. Try it also in mathmode: $\{x, y, z, 12, 83\}$.

2 Mathematical proof

Theorem (Pythogoras): In a triangle with a 90-degree angle, we label the edges that make the right angle A and B, and the other edge C. Let a, b, c be the length of the edges (only choose a unit if you are not a mathematician). Then we have $a^2 + b^2 = c^2$.
Proof: Well, I learned this in high school and I don't really remember the proof. I'm sure your favorite search engine will take you to a stackexchange page where the proof is accessible to you! At the end of the proof a mathematician usually puts a square or write QED. They often don't want to rewrite the theorem at the end of their proof. $\square$