Exercise 5 - Maths in LaTeX

UGC 'LaTeX: An Introduction (Part 1)' Training Course

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In this exercise, we will practice inserting maths into our documents. Again, you can use a separate new document, or continue adding content to the document you used in the previous exercises. Remember to add the `amsmath` package to your document using the `\usepackage` command

1. Add a few lines of text to your document. Within this text, use the `math` environment to typeset the following equation inline.

$$(a+b)(a+b) = a^2 + 2ab + b^2$$

Your result should look like this:

Some text that I am typing just so I can include this equation: $(a+b)(a+b) = a^2 + 2ab + b^2$ which I have now done.

2. Swap the `math` environment `begin` and `end` for `\(` and `\)`. Does it make a difference to the output? What if you use $ ... $ instead?

3. Use the `equation` environment to add the following equations to your document:

$$a^3 + 6b - 12$$

$$\cos(2\theta) = \cos^2\theta - \sin^2\theta$$

$$\lim_{x\to\infty} \exp(-x) = 0$$

$$k_{n+1} = n^2 + k_n^2 - k_{n-1}$$

$$\frac{n!}{k!(n-k)!}$$

$$\frac{\frac{1}{x} + \frac{1}{y}}{y - z}$$

$$3 \times {}^{1}\!/_{2} = 1{}^{1}\!/_{2}$$

$$\left| \sum_{i=1}^{n} a_i b_i \right|$$

$$\left(\sum_{i=1}^{n} b_i^2 \right)^{1/2}$$

4. Experiment with adding equations from your own research background.