

Sample Homework

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1. Statement of problem 1

(a) Statement of part (a) of problem

Proof. Here I type the proof of my problem. Notice that LaTeX will automatically place “Proof” at the beginning of the proof and an open square at the end of the proof.

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(b) Statement of (b) of problem

Solution. Maybe I am not proving something but want to state a solution. I can still use the “Proof” environment, just use ‘[]’ symbols to rename “Proof” to “Solution”.

Notice that I must use the ‘ symbol to make left apostrophe or use it twice to make left quotation marks, otherwise I only get right apostrophes or quotation marks like so:

”look at these weird ’quotation’ marks”.

□

200. Statement of problem 200

Proof. Use the dollar symbol to enter math mode: $5x^2 + 100\frac{\epsilon}{\pi} + \ln 500$.

Use square brackets and backslash to enter math mode, but on a centered new line:

$$\forall \epsilon > 0, \exists n \in \mathbb{N} \text{ s.t. } n, m \geq N \Rightarrow |a_n - a_m| < \epsilon.$$

Use equation environment to write an equation on a centered new line with a number next to it:

$$\frac{d}{dx} \arctan x = \frac{1}{1+x^2} \tag{1}$$

You can also rename equations:

$$\lim_{x \rightarrow 0} e^x = 1 \tag{105}$$

□

2. Statement of problem 2

Solution. Maybe I have a set of steps I want to show, I can use the align environment:

$$\begin{aligned}\int_0^\pi \sin x dx &= -\cos x \Big|_0^\pi \\ &= -\cos \pi - (-\cos 0) \\ &= -(-1) - (-1) \\ &= 1 + 1 \\ &= 2\end{aligned}$$

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