

Put ALL mathematical objects in dollar signs. Using fewer dollar signs to encompass more math will look better than splitting up math with extra dollar signs. Use math commands like `\ldots` and `\cdot`.

BAD

$\{1,2,\dots,2n\}$	<code>\{\\$1\$,\\$2\$, \dots, \\$2n\}</code>
$\{1, 2, \dots, 2n\}$	<code>\{\\$1,2, \dots, 2n\}</code>

GOOD

$\{1, 2, \dots, 2n\}$	<code>\{\\$1,2, \ldots, 2n\}</code>
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Don't use `\textit` as a substitute for dollar signs. Even if a sentence is italicized with `\textit`, you should still use dollar signs around math in the same way as if the sentence were not in italics.

BAD

Let S be a subset of $\{1,2,\dots,2n\}$ such that $|S|=n+1$.

`\textit{Let S be a subset of \{1,2,\dots,2n\} such that $|S|=$n+1.}`

GOOD

Let S be a subset of $\{1,2,\dots,2n\}$ such that $|S| = n + 1$.

`\textit{Let $$$ be a subset of $\{1,2, \ldots, 2n\}$ such that $|S|=n+1$..}`

When writing a set, for example $\{1, 2, \dots, 2n\}$, make sure the braces `{ }` actually appear in the PDF output. In particular, you need to include the backslash before the brace.

BAD

$T = 1, 2, \dots, 2n$	<code>\$T={1,2, \ldots, 2n}\$</code>
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GOOD

$T = \{1, 2, \dots, 2n\}$	<code>\$T=\{1,2, \ldots, 2n\}\$</code>
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This is another example of a situation where, if I see this in your writing, you are essentially telling me that you didn't take the time to look at your PDF and proofread for basic typos.

Don't use `\mid` for vertical bars denoting the size of a set. It produces extra space that looks bad. Instead, use the vertical bar on the keyboard: `SHIFT + \` (this is the key above `ENTER`).

BAD

$$|S| = n + 1 \qquad \qquad \qquad \$\mid S \mid = n+1\$$$

GOOD

$$|S| = n + 1 \qquad \qquad \qquad \$|S| = n+1\$$$

The `\mid` command is more appropriate for when you use a vertical bar to denote “such that”, for example in the definition of a set:

Define $S = \{n \in \mathbb{N} \mid n \text{ is odd}\}$

Define `$S = \{n \in \mathbb{N} \mid \text{is odd}\}$`

The same goes for the vertical bar used as a symbol for “divides”.

BAD

$$a \mid b \qquad \qquad \qquad \$a \mid b\$$$

GOOD

$$a|b \qquad \qquad \qquad \$a|b\$$$

Although I would also say that in formal mathematical writing you should write out the word “divides” if it is used in exposition (similar to how you should write out “such that”, “for all”, etc...). The vertical bar is more appropriate for within mathematical expressions.