How to annoy Evan with LaTeX

A list of pet peeves

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It is assumed you are using `amsmath` and `amssymb` packages, which you likely are already if you are trying to type math.

Instead of...		Annoy Evan by using ...		Notes
``` ``quotes'' ```	"quotes"	`"quotes"`	"quotes"	
`$\sin(x)$`	$\sin(x)$	`$sin(x)$`	$sin(x)$	(1)
`$1,\dots,n$`	$1, \dots, n$	`$1,...,n$`	$1, ..., n$	(2)
`$1,\dots,n$`	$1, \dots, n$	`$1,\cdots,n$`	$1, \cdots, n$	(2)
`$a$, $b$, and $c$`	a, b, and c	`$a,b,$ and $c$`	$a, b,$ and c	(3)
`$p \mid n$`	$p \mid n$	`$p \| n$`	$p \| n$	(4)
`$\ell \parallel m$`	$\ell \parallel m$	`$\ell \|\| m$`	$\ell \|\| m$	
`$a \pmod n$`	$a \pmod n$	`$a (\text{mod }n)$`	$a (\text{mod } n)$	(5)
`$2 \cdot 3 = 6$`	$2 \cdot 3 = 6$	`$2 * 3 = 6$`	$2 * 3 = 6$	
`$2 \times 3 = 6$`	$2 \times 3 = 6$	`$2$x$3 = 6$`	$2 x 3 = 6$	
`$\left< x,y \right>$`	$\left\langle x, y \right\rangle$	`$<x,y>$`	$< x, y >$	(6)
`\[ 1+1=2 \]`	See (7)	`$$1+1=2$$`	See (7)	(7)

Notes

1. This also applies to cos, tan, gcd, min, max, deg, log, ln, exp, inf, sup, ... (For custom operators, say $\operatorname{lcm}(a,b)$, write `$\operatorname{lcm}(a,b)$`. Or put `\DeclareMathOperator{\lcm}{lcm}` in the preamble to define `\lcm`.)
2. Generally, you should almost always use `\dots`, even outside math mode. The two dots commands, `\ldots` ($\ldots$) and `\cdots` ($\cdots$) put the dots in different places. Generally, you want the former for lists and text, the latter between operators. The smarter `\dots` will auto-detects which case you are in.
3. The spacing right before the variable b is affected.
4. Also in set notation, e.g. $\{x \mid f(x) > 0\}$ is `$\left\{ x \mid f(x) > 0 \right\}$`.
5. `$a \mod n$` gives "$a \mod n$", `$a \bmod n$` gives "$a \bmod n$".
6. `\left` and `\right` are also used for resizing `()`, `[]`, `\{\}` to match heights of tall inputs. Compare `\[ f\left( \frac12 \right) \]` and `\[ f( \frac12 ) \]`:
$$f\left(\frac{1}{2}\right) \qquad \text{vs.} \qquad f(\frac{1}{2}).$$
7. `$$...$$` is a TeX primitive, not officially supported by LaTeX. It "usually" works, but there are occasional mysterious breakages (whereas `\[ ... \]` always works). For example, the `\qedhere` command will break:

   Example proof with double dollar signs. Follows by
   $$1 + 1 = 2. \quad \square$$
   Example proof with correct syntax. Follows by
   $$1 + 1 = 2. \qquad \square$$