$$\times \div \equiv \neq \neq \geq \geq \leq \leq \not\leq \forall \mid \exists \in \notin \notin \ni \pi \theta \alpha \beta \rightarrow \Rightarrow$$

1 lines

| | \ \

$$A \backslash B = \{a \in A \mid a \notin B\}$$
$$|x|^2 = x^2, |x| \geq 0$$

2 1cm

$$1\text{cm}(x, y) = \text{the smallest positivte integer } z \text{ so that } x \mid z \text{ and } y \mid z$$

3 dyadic

$$thedyadicrationalsare \left\{ \frac{a}{2^b} \middle| \, a, bintegral \right\}$$ [1]

4 verbatim

If you type in `\verb| leading spaces|` you get `leading spaces`.

```
With verbatim you can get blank lines:
like ^that^ one.
```

[1] Hello World

5 mathfonts

$\mathfrak{h}\mathfrak{i} \eqsim \sqsupset \langle\rangle$

The permutation group $\mathfrak{G}_\mathfrak{n}$ is defined as $\{\pi \in \mathbb{Z}^n \mid 1 \leq \pi \leq n$, all π_i distinct $\}$ and has cardinality $n!$, while the power set $\mathcal{P}(n)$ is defined as the family of all subsets of S, and has cardinailty $2^{|S|}$.

A appendix