First testing some inline $\sqrt{34}$ math
Next for an environment using a snippet: $\sqrt[3]{8} = 2$
Time for some fractions using $\frac{2^3}{x_a^2} x_2^a$
How do symbols look in math env vs not math env?
No math: (creates an error)
Math: $\emptyset\infty \equiv \setminus \cdot \times \langle\rangle \hbar \dagger \nabla \downarrow\Downarrow \rightarrow \Rightarrow \epsilon\varepsilon\varpi$
Practicing a numbered equation:

$$5! = 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 \tag{0.1}$$

$$\text{something} \cdot 8$$

1 Something new

$$a, b, c, \cdots, z \tag{1.1}$$

2 Another section

$$1, 2, 3 \ldots \infty \tag{2.1}$$

Time to try aligned equations:

$$\begin{aligned} 1234 &= 1234 \\ 234 &= 2342 \\ 11111111 &= 23422 \end{aligned}$$

$0 \xleftarrow[5]{2x} \infty$
$0 \xrightarrow[5]{2x} \infty$

$$\begin{aligned} a + b &= b \\ b &= c \\ c &= d \end{aligned} \tag{2.2}$$

$$\overline{\frac{123}{234}} \tag{2.3}$$

$\sin\theta$
Checking out various binomial typesets:

$$\binom{2n}{n}$$
$$\binom{2n}{n} \tag{2.4}$$
$$\binom{2n}{n}$$
$$\binom{2n}{}$$

By the way, 0.1 is really cool!
Testing maps for the imaps:
$\mathbb{N} \quad \mathbb{R}$
$3 \equiv_{25} 28$

$$3 \equiv_{25} 28 \tag{2.5}$$

$\prod_{n}^{i=1} 2^i$

$$\prod_{n}^{i=1} 2^i \tag{2.6}$$

$$1 = 2 \tag{2.7a}$$
$$2 = 3 \tag{2.7b}$$
$$4 = 5 \tag{2.7c}$$