

Most of the custom commands included in this package are demonstrated below.

Exercise 1:

Some mathematics here.

$$\sum_{i=1}^{\infty} \frac{x^n}{n!}$$

Exercise 2: *Statement of the problem.* What is $\sqrt[139]{2}$?

Solution and stuff.

Exercise 37:

Skipped a few numbers.

Exercise 143: *Skipped a few numbers with a problem statement*

Demonstration of some custom commands. Sets are nice:

$$\left\{ x \in \mathbb{R} : x \in \mathbb{Q} \text{ and } x < \sum_{k=1}^{100} k \right\}, \quad \left\{ x \in \mathbb{R} \mid x \in \mathbb{Q} \text{ and } x < \sum_{k=1}^{100} k \right\}, \quad \{x > 3\}.$$

Sometimes you want large norms, or maybe two of them

$$\left| \sum_{k=1}^{100} (-1)^k \right| \quad \left\| \sum_{k=1}^{100} (-1)^k \right\|.$$

Vectors are useful

$$\mathbf{q} + \hat{\mathbf{i}} + \hat{\theta} + \hat{\mathbf{x}}.$$

Sometimes you need theorems.

Theorem 31. $4 < 2$ if and only if you're crazy.

Proof. Trivial. □

Definitions, lemmas, propositions, remarks, examples, and corollaries all work too.