

- $\mathbb{R} \times \mathbb{Z} \times \mathcal{P}_{fin}(\mathbb{R})$

This is a cartesian product with three different sets, so it will be written as a triple  $(x,y,z)$ . In the  $x$  entry there will be a real number, in the  $y$  entry there will be an integer, and in the  $z$  entry there will be a finite subset of the real numbers. Examples:  $(1, 1, \{1\}), (\pi^e, 1792, \{\frac{\sqrt{2}}{2^1}, \dots, \frac{\sqrt{2}}{2^{1000}}\})$ .

- $(\mathcal{P}(\mathbb{Z}_{>0}))^{\mathbb{R}^2}$

This is the set of functions from the real plane to subsets of the natural numbers. Examples:  $f : \mathbb{R}^2/\{(0,0)\} \rightarrow \mathcal{P}(\mathbb{Z}_{>0}), f(x,y) = \{|x|\}, g : \mathbb{R}^2/\{(0,0)\} \rightarrow \mathcal{P}(\mathbb{Z}_{>0}), g(x,y) = \{a_0 \cdot 10^1 + 1, \dots, a_n \cdot 10^{n+1} + 1\} : \frac{\min(x,y)}{\max(x,y)} = a_0.a_1a_2 \dots a_n\}$