

1. This is the problem.

*Proof.* This is the [solution](#).

- (a) It uses
- (b) a lot of
- (c) symbols,
- (d) like

$$\forall, \exists, \neg, \rightarrow, \leftrightarrow, \mathbb{C} = \langle \text{complex numbers; } +, -, 0, \cdot, 1 \rangle, A_p \otimes A_q, \varphi, 2^{\mathbb{N}_0}, \left[ MP \stackrel{\text{def}}{=} \frac{\alpha, (\alpha \rightarrow \beta)}{\beta} \right]$$

and

$$0 \rightarrow M' \xrightarrow{\alpha} M \xrightarrow{\beta} M'' \rightarrow 0. \quad (\ddagger)$$

□