

Order of quantifiers matters!

We write “s.t.” for “such that”. Now, think about these two statements:

- ▶ $\forall x \in \mathbb{Z} \exists y \in \mathbb{Z} \text{ s.t. } x > y$
- ▶ $\exists y \in \mathbb{Z} \text{ s.t. } \forall x \in \mathbb{Z}, x > y$

Is either of these statements true?