



INTEGER ARITHMETIC AND ORDER

Why

How does arithmetic interact with integers.

Results

We can show the following.¹

Proposition 1. *Let $a, b, c, d \in \mathbf{Z}$. If $a \leq b$ and $c \leq d$, then $a + b \leq c + d$.*

Proposition 2. *Let $a, b, c, d \in \mathbf{Z}$ with $a, b \geq 0_{\mathbf{Z}}$. If $a \leq b$ and $c \leq d$, then $a \cdot c \leq a \cdot d$.*

¹Accounts will appear in future editions.

