$$S = \{ \forall x \in \mathbb{Z} \mid 1 \leq x \leq 5 \}$$

partial order total order

$$\sum_{i=0}^{n} i = \sum_{i=1}^{n} i = \frac{(n+1) \cdot n}{2}$$

$n = 50$

$1 + 50 = 51$

$2 + 49 = 51$

$3 + 48 = 51$

$\vdots$

$51 \cdot 25$

$1 + \dots + n \qquad n+1$

$\frac{n}{2} \quad 2 + \dots + n-1 \qquad n-1+2 = n+1$

$2 \quad 3 + \dots + n-2 \qquad n-2+3 = n+1$

$$\frac{n}{2} \times n+1 = \frac{(n+1) \cdot n}{2}$$