Aufgabe 1

IA: $\sum_{i=1}^{1} i \overset{!}{=} \frac{1 \cdot (1+1)}{2}$

$1 = \frac{2}{2} 1$

IS: $\sum_{j=1}^{n} i \overset{!}{=} \frac{n \cdot (n+1)}{2}$

$$\sum_{i=1}^{n+1} i \overset{!}{=} \frac{(n+1)((n+1)+1)}{2}$$

$$\sum_{i=1}^{n} i + (n+1) \overset{!}{=} \frac{n(n+2) + (n+2)}{2}$$

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

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