Задание:
$(\forall z)((x+y)+z \approx x+(y+z) \to (x+y)+s(z) \approx x+(y+s(z))$, т.е. индукционный шаг для $(x+y)+z \approx x+(y+z)$

Решение:

$$\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\vdash\ (x+y)+s(z) \approx s(x+y+z)}{\vdash\ s(x+y+z) \approx (x+y)+s(z)} \quad \dfrac{\vdash\ y+s(z) \approx s(y+z)}{\vdash\ s(y+z) \approx y+s(z)} \quad \dfrac{\vdash\ x+s(y+z) \approx s(x+y+z)}{\vdash\ s(x+y+z) \approx x+s(y+z)}}{\vdash\ (x+y)+s(z) \approx x+(y+s(z))}\ \text{(замена равных)}}{(x+y)+z \approx x+(y+z)\ \vdash\ (x+y)+s(z) \approx x+(y+s(z))}\ \text{(утонч.)}}{\vdash\ (x+y)+z \approx x+(y+z) \to (x+y)+s(z) \approx x+(y+s(z))}\ (\to \text{введ.})}{\vdash\ (\forall z)\Big((x+y)+z \approx x+(y+z) \to (x+y)+s(z) \approx x+(y+s(z))\Big)}\ (\forall \text{ введ.})$$