

$$\begin{aligned}
\sum_2^{n+3} \left(2 - \frac{1}{j} \right) &= \sum_2^{n+3} 2 - \sum_2^{n+3} \frac{1}{j} \\
&= 2(n+2) - \left(\sum_1^{n+3} \frac{1}{j} - 1 \right) \\
&= 2(n+2) - \left(\sum_1^n \frac{1}{j} + \frac{1}{n+1} + \frac{1}{n+2} + \frac{1}{n+3} - 1 \right) \\
&= \left(2(n+2) - \frac{1}{n+1} - \frac{1}{n+2} - \frac{1}{n+3} + 1 \right) - x
\end{aligned}$$
