

2.63
p.1

$$n=1$$

$$2 = \frac{1}{2} + \frac{1+2}{2} \quad \checkmark$$

$$n=k+1$$

$$2 \stackrel{?}{=} \frac{1}{2} + \dots + \frac{k}{2^k} + \frac{k+1}{2^{k+1}} + \frac{k+3}{2^{k+1}}$$

$$2 \stackrel{?}{=} 2 - \frac{k+2}{2^k} + \frac{k+1}{2^{k+1}} + \frac{k+3}{2^{k+1}}$$

$$0 = \frac{-2k-4+k+1+k+3}{2^{k+1}}$$