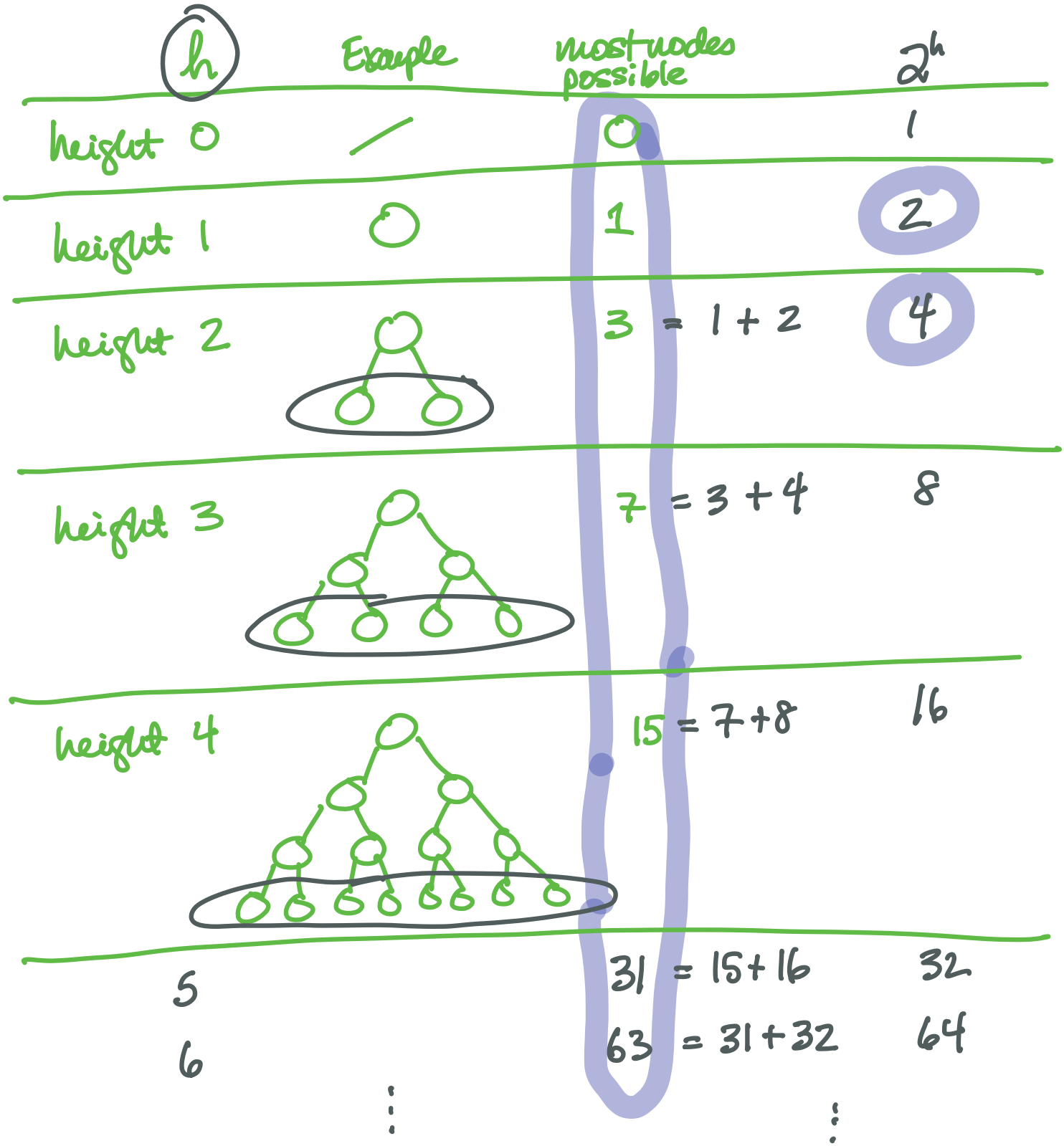

nodes $n \leq (2^h) - 1$

$n + 1 \leq 2^h$

$\log_2(n+1) \leq \log_2(2^h)$

$\log_2(n+1) \leq h$

$\log_2(n+1) \leq h \leq n$