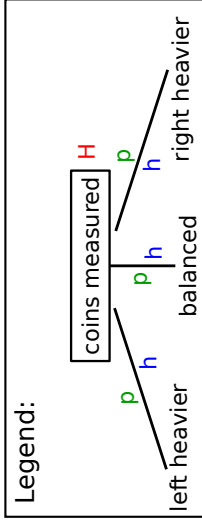
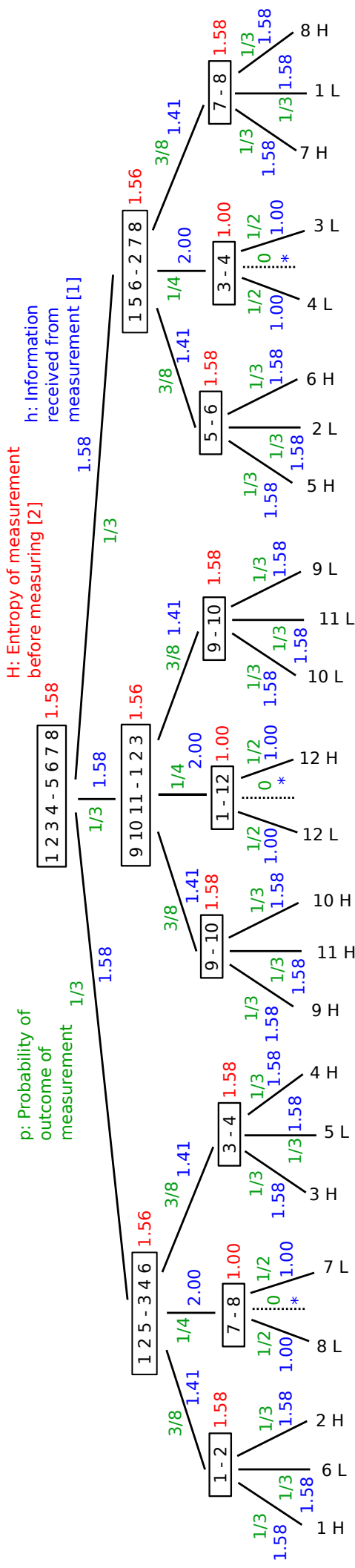


12-coin problem: 12 coins, one is of different weight. Measure on a balance which one is false and if it is heavier or lighter. Solved with information theory



Total entropy (uncertainty) of system
24 equal probabilities:
 $\text{Log}(24) = 4.58$ bits



[1]: $h = -\text{Log}(p)$

Following a path, sum of information must be 4.58 bits because, knowing the coin, all entropy (uncertainty) is then gone

[2]: $H = \sum p \log p = - \sum p \text{Log}(p)$