

~~\$ 25~~

\$ 200

~~\$ 1,000~~

~~\$ 7,500~~

~~\$ 25,000~~

\$ 100,000

\$ 16,000

\$ 32,000

\$ 34,000

\$ 55,000

# Staircases



$$1 + 2 + 3 + 4 + 5 = 15$$

$$+ 5 + 4 + 3 + 2 + 1 = 15$$

$$\underbrace{(n+1)}_{\leftarrow} \rightarrow \underbrace{6 + 6 + 6 + 6 + 6}_{n} = 30$$

$$\frac{5 \cdot 6}{2} = 15$$



$$\sum_{k=1}^n k$$

$$\frac{25}{2} + \frac{5}{2} = \frac{30}{2}$$
$$\frac{2}{2}n^2 + \frac{2}{2}n$$

## Coin Strategies = $2^4$ or list them!

- Break into groups of 4, 16 ways it could go then look at how these are distributed
- Count # of Heads/Tails  
Consecutive pairs too different? Runs
- Count # of changes, certain range of changes. Real: fewer changes.  $P(11 \text{ heads}) = \left(\frac{1}{2}\right)^{11}$
- Runs occurred later in fakes.