

## Review:

### • Combinatorial Proofs

↳ Idea: you can show that two expressions are equal if you show that they count the same set.

↳ If you want to show that  $f(n) = g(n)$ , you

- Find a set with  $f(n)$  elements
- Count the same set in a different way to show that has  $g(n)$  elements.
- Then  $f(n) = g(n)$  bc they count the same set.

↳ Tips:

- If you see a summation  $\sum$ , think casework
- If you see an exponentiation, think sequence of independent choices.
- Start with the side that looks simpler