



## COUNTS

### Definition

We want to know how many of an indistinguishable object we have. Let  $a$  be that object. If I have one of  $a$ , say I have the set  $\{a\}$ . The weirdness is that two of  $a$  is not the pair  $\{a, a\}$ , because that pair is the same " $a$ " and so the same as two. We can take notes from ordered pairs, though, and say that when I have two of  $a$  I have  $(a, a)$ . What then of the generalization to tripels? I have  $(a, a, a) = ((a, a), a)$  Which is  $\{\{(a, a)\}, \{(a, a), a\}\}$  Which is  $\{\{\{\{a\}, \{a\}\}\}, \{\{\{a\}, \{a\}\}, a\}\}$ .

$$1 = \{a\}$$

$$2 = (a, a) = \{\{a\}, \{a\}\}$$

$$3 = ((a, a), a) = (2, a)$$

