## **2** = **1** + **1** and Other Compositions

## Math Teachers' Circle

Joshua Zucker, joshua.zucker@stanfordalumni.org, July 27, 2012

In each problem below, I'll show you all the "legal" ways to make a certain number. Your job is, for each problem separately, to:

- Figure out what the rules are that determine which ways are legal.
- Figure out how many ways there are to make 10.
- Ask your own further questions! For example, try subcategorizing things in some way or other, and then count the number of ways to make a particular number in each subcategory.
- 1. Ways to make 3:
  - $3 \\ 2 + 1 \\ 1 + 2 \\ 1 + 1 + 1$
- 2. Ways to make 6:
- 3. Ways to make 3:

