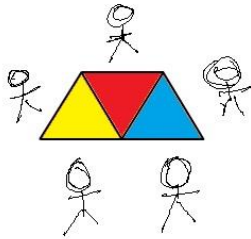


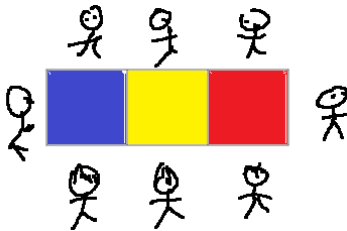
Chapel Hill Math Circle
Beginners Group (1-3)
March 26, 2016

These problems were translated from the book *Mathematical Problem-solving for Elementary School Children* by Yuri Rojas. The book can be downloaded for free at Olimpiadas Matemáticas de Puerto Rico. The lovely pictures were created by us. ☺

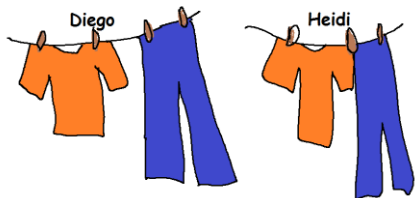
1. All tables at a school are equilateral triangles and can sit three students, one on each side. If two tables are joined, four students can sit. If three tables are joined, then five students can sit, as shown below. How many tables are needed to sit 50 students?



2. At a local restaurant there are only square tables that sit four people on each side. If two tables are joined, 6 people can sit. If three tables are joined, then eight people can sit, and so on.
 - a. How many people can sit if we join 23 tables?
 - b. How many tables are needed to accommodate 100 people?



3. Diego uses two clothespins for every piece of clothing he hangs. Heidi uses two clothespins for her first piece, but then uses one of those two and another pin for the next piece of clothing, as shown below.



- a. How many pins does Heidi use to hang 10 pants and 8 shirts? How many does Diego need for the same amount of pants and shirts?
- b. If there are 50 clothespins, how many pieces of clothing can Diego hang? How about Heidi?