These problems are to be enjoyed. Feel free to work together, talk out loud, use scratch paper and ask your friends for ideas! Do as many problems as you can, and then we will discuss some solutions together.

1. Bertie has six jelly beans left: one each of Avocado, Buttermilk, Centipede, Dirt, Earwax and Fried Beans flavors. Harry reaches into the bag and takes out three jelly beans. What possible groups of three jelly beans could Harry take? For example, Harry might take the Buttermilk, Dirt and Earwax jelly beans.
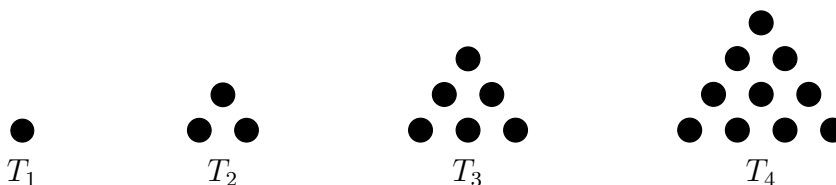
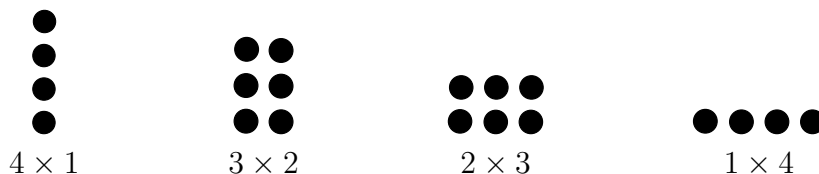2. In hexagon ABCDEF, how many triangles can be formed by connecting three vertices? Example ΔBCE.
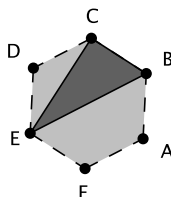
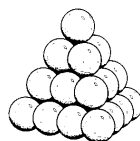3. How many ways can Pascal walk from home to the playground, walking 6 blocks?
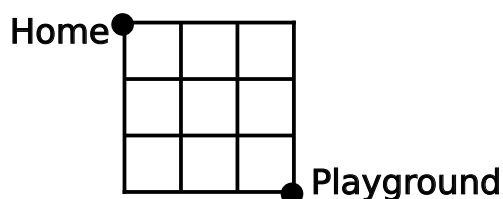
4. What is the sum of the first 4 triangular numbers?

$T_1 \qquad T_2 \qquad T_3 \qquad T_4$

5. What is the sum of $4 \times 1 + 3 \times 2 + 2 \times 3 + 1 \times 4$?

4×1 $\qquad$ 3×2 $\qquad$ 2×3 $\qquad$ 1×4

6. A tetrahedron (triangular pyramid) is made by piling up four layers of tennis balls. How many tennis balls are used in all?

7. How many ways can Jeff, Jeannette, Joy, and Jackie share 7 chocolate chip cookies? Each person should get at least one cookie.
   For example,

   Jeff $\qquad$ Jeannette $\qquad$ Joy $\qquad$ Jackie

The Bard Math Circle began in 2007, led by Bard math professors Lauren Rose and Japheth Wood and undergraduate math majors in the Trustee Leadership Training program. Math circle events take place at local libraries in the area surrounding Bard College, and target middle and upper elementary school students; each math circle event features math games, logic puzzles, and a hands-on mathematical project that students can build and take home.

Recently, several local middle school teachers have been attracted to our events, and report that what we intend for a student audience has turned out to be more valuable to their mathematical understanding and pedagogy than all but one district-provided professional development offering over the last 15 years. This interest from teachers has led us to consider starting a teachers' math circle, and also to invitations for a more formal involvement with the local school districts.

For solutions and to comment about these problems please visit our blog:

http://bardmathcircle.blogspot.com.