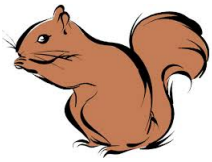
UW Math Circle

October 22, 2015

1. You flip a coin 10 times, and get heads 7 times. In how many ways could this happen?

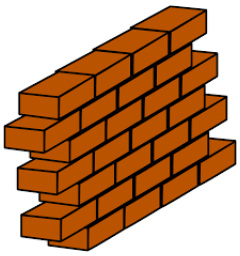
2. Now Samuel the squirrel has 19 acorns, and he wants to choose an even number of them to bury in a hole. In how many ways can Samuel do this?



3. You have 10 different colored beads, and you want to make them into a necklace. How many different necklaces can you make, using all of the beads? We consider two necklaces to be the same if one can be obtained by rotating or flipping the other.

4. (a) How many 10 digit numbers have their digits sum to 8?
   (b) How many 10 digit numbers have their digits sum to 18?

5. You have a pile of 1 foot by 2 foot bricks, and want to build walls that are 2 feet high. How many different walls can you build that are 2 feet high and 15 feet long?



6. What is the sum of all 3 digit numbers that can be written with the numbers 1,2,3, and 4?