

Chapel Hill Math Circle
Beginners Group (1-3)
February 6, 2016

1. A very special island is inhabited only by knights and knaves. Knights always tell the truth and knaves always lie. You meet two inhabitants and they make certain statements. Can you determine what they are?

Sue: Zippy is a knave.

Zippy: Sue and I are knights.

2. If there are 5 pigeons who want to have a home (let's call it a pigeonhole), but there are only 4 holes. What can you say about the way they can choose the holes if every pigeon would like its own pigeonhole? Can they do it?
3. Last month we met the tetrominoes. Take a pair of scissors and cut them out. How many are there? You may also draw a picture of them here.
4. Suppose each square in the tetrominoes can cover exactly one square on a special 4x5 chess board. Can you cover the board with exactly one of each of tetromino?

