Chapel Hill Math Circle
Intermediate Group (6-7)
February 6, 2016

1. In how many squares can you cut a square?

2. 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?

    a. Mel: Either Ted is a knight or I am a knight.
       Ted: Mel is a knave.

    b. Alice: Rex is a knave.
       Rex: It's false that Bob is a knave.
       Bob: I am a knight or Alice is a knight.

3. Abe, Bob, Carl, Dave, and Earl are seated clockwise, in that order, around a round table. When a bell rings, every boy but one switches his position with one of his neighbors. The resulting clockwise positions are: Abe, Earl, Bob, Dave, and Carl. Which of the boys didn't move?