

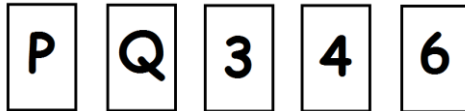
Chapel Hill Math Circle
Elementary Group (4-5)
February 13, 2016

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?

Ted: Between Zippy and me, exactly one is a knight.

Zippy: Ted is a knave.

2. There are five cards on a table.



Each card has a natural number on one side and a letter on the other. James states, “Any card with a vowel on one side has an even number on the other.” Tony only turned one card to show that James was wrong. Which card did Tony turn? Why does that work?

3. A farmer and a cow are on the same side of a straight-line river. The farmer has to walk to the river, get water in a bucket, and take it to the cow. What’s his shortest path?
4. In a group of 40 students, 20 play soccer, 19 play baseball, and 6 play both. How many students don’t play any of those two sports?