

UW Math Circle

October 16, 2014

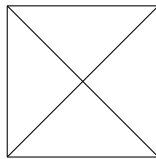
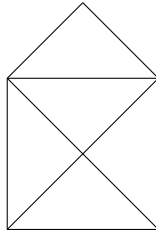
Homework

1. Noah and his friends are playing Duck Duck Goose, and they're sitting in a big circle in such a way that both neighbors of each person are the same gender. If there are 9 girls in the circle, how many boys are playing Duck Duck Goose?



2. There are 100 students taking languages classes at Middleview High School. If 60 are taking German and 75 are taking Spanish, and these are the only languages taught, how many students take both Spanish and German?

3. Is it possible to trace either of the shapes below, going over each line segment exactly once, without lifting your pencil from the paper?



4. How many positive integers less than or equal to 1000 do not have 2, 3, or 5 among their prime factors?