MA162 2013-04-03

1. How many ways can you choose 3 things out of 14 things if order matters?

2. How many ways can you choose 4 things our of 6 things if order matters?

3. How many ways can you choose one boy and one girl (out of five boys and five girls) if order matters?

4. A hipster spider has 8 feet and 20 pairs of shoes.

(a) How many ways can it put 16 shoes on its feet (left shoes on left feet, right shoes on right feet of course) if we don't care whether the shoes match?

(b) How many ways can it put shoes on its feet so that it is not wearing any matching shoes?

5. How many ways to rearrange the letters in GLACIER?

6. How many ways to rearrange the letters in KENTUCKY?

7. We need to choose 11 people out of 15. The 11 people are split into four groups of size 4+3+3+1. We don't care about order within a group, but we do care which group a person is in. How many possibilities?

8. How many ways can you arrange two letters of the word HIPPOPOTAMUS?

9. How many ways can you arrange three letters of the word HIPPOPOTAMUS?