

Answer on Question #50075 – Math – Combinatorics | Number Theory

Task:

Now you are in 1st floor. You have to go 6th floor. You are able to cross three floors at a stretch. Then you need to eat a chocolate. There are 3 chocolates for you in 2, 3 and 5th floor. How many different ways you can go 6th floor?

Solution:

After crossing three floors a person needs to eat a chocolate. There are only 2 ways to go 6th floor. I will try to explain it by means of schemes where the figure indicates the number of floors:

- From 1st floor to 2nd floor, then from 2nd floor to 3rd, then from 3rd to 2nd floor, then you need to eat a chocolate, then from 2nd floor to 3rd floor, then from 3rd floor to 4th, then from 4th to 5th floor, then you need to eat a chocolate and go 6th floor;
- From 1st floor to 2nd floor, then from 2nd floor to 1st, then from 1st to 2nd floor, then you need to eat a chocolate, then from 2nd floor to 3rd floor, then from 3rd floor to 4th, then from 4th to 5th floor, then you need to eat a chocolate and go 6th floor.