

Problem 5

Two grasshoppers start to hop from the same point “4”.

1. The first grasshopper hops $\rightarrow 9$ and stays there. The second grasshopper hops following the path on picture 4 (one hop right, then one hop down, then one hop left, and so on)
 - a. Will the grasshoppers ever meet?
 - b. Will the second grasshopper hop OVER the first one?
2. What if the first grasshopper hops $\rightarrow 10$ instead of $\rightarrow 9$? Answer questions 1.a and 1.b.
3. What if the first grasshopper hops $\rightarrow 100$ instead of $\rightarrow 9$? Answer questions 1.a and 1.b.
4. What if the first grasshopper hops $\rightarrow 111$ instead of $\rightarrow 9$? Answer questions 1.a and 1.b. Count on which hop the second grasshopper would hop over the first one.



Problem 6

On planet Pandora a day is about 100 minutes long (we do not know the exact number of minutes in a day). In problem 5, part 4, how many days would it take for the second grasshopper to hop over the first one, if they hop on Pandora, and each hop takes a minute?