Problem of the Week

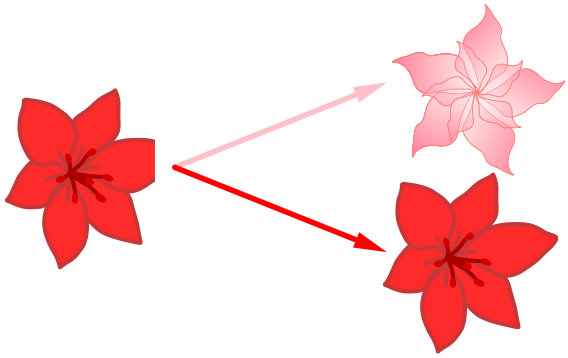
Problem C

Peculiar Perennials

A *perennial* is a plant that blooms over the spring and summer. The plant dies off over the autumn and winter but returns again the following spring.

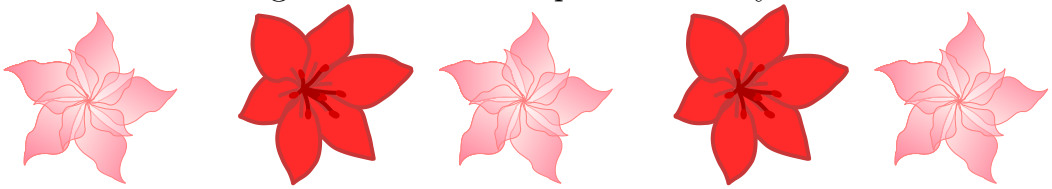
There are two known species of the POTW perennial plant, the pink ProbleminusA plant and the red ProbleminusB plant. The ProbleminusA is a pink flowering plant in its first year.. The following spring it turns into a red ProbleminusB plant. That is, each ProbleminusA plant blooms as a ProbleminusB plant the next year.

The ProbleminusB is a red plant. This plant blooms the following spring and also produces a pink ProbleminusA plant. That is, each ProbleminusB plant returns the following spring along with a new ProbleminusA plant.



Every year this cycle reoccurs.

Today in our garden we planted three ProbleminusA plants and two ProbleminusB plants. Assuming that the plants behave exactly as described, how many plants will be in the garden after 10 reproduction cycles?



Strands Number Sense and Numeration, Patterning and Algebra