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1. Imagine a tree that each year grows 3 new branches from the end of each existing branch. Assuming that your tree is a single stem when it is planted:

   a1. How many new branches would you expect to appear in the first year of new growth?
   
   a2. How many new branches would you expect to appear in the second year of new growth?
   
   b. Write a function rule and a recursive rule that relates the number of new branches to the year of growth.
   
   c. In what year will the number of new branches first be greater than 15000?