

# Ancestors

(Based on: Exeter, Math1 (15))

When describing the growth of a population, the passage of time is sometimes described in generations, where a generation being about 30 years. One generation ago, you had two ancestors (your parents). Two generations ago, you had four ancestors (your grandparents). Ninety years ago, you had eight ancestors (your great-grandparents).

1. Draw a family-tree describing your ancestors up to 3-generations back.

2. How many ancestors did you have 120 years ago?

3. Complete the table for the number of ancestors in each generation

Generations	1	2	3	4	5	6	7	8	9
# of ancestors									

4. How many ancestors did you have 300 years ago?

5. How many ancestors did you have 900 years ago?

6. Do your answers make sense? Explain!

7. Exponential growth.

Plot the values you calculated in table 3 above. The X-axis is the "Generations", and the Y-axis is the "Ancestors".

Plot on the same axes the line  $y=x$ .

Copy (qualitatively) the two graphs below.

=== End ===