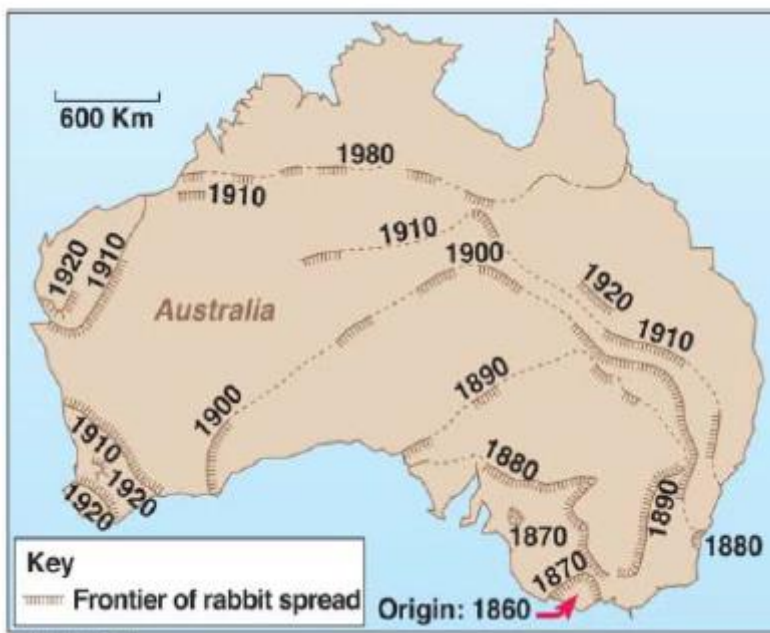


Subject n°5

SEQUENCES

*Please, do not write on the exam paper
and do not forget to give it back at the end of the test.*

The rabbit invasion



Erosion of a gully in South Australia caused by rabbits

Source: https://en.wikipedia.org/wiki/Rabbits_in_Australia

Source:

<http://australian-rabbit-invasion.weebly.com/the-invasion.html>

European rabbits arrived in Australia with the First Fleet in 1788. They were introduced for food and hunting. In 1860, 22 wild European rabbits were released in Victoria, Australia. During the first years of spread, the average monthly growth rate of the number of rabbits was 21%.

- 1) How could you model the number of rabbits in Australia from 1860 onwards? Try to estimate the population of rabbits after 6 full years.
- 2) Since their introduction, the effect of rabbits on the ecology of Australia has been devastating. In 2000, after more than a century of control programs, rabbits cost Australian primary producers \$113 million in lost production and control costs. We assume that the cost steadily increased each year by \$ 3 million. Calculate the total amount of money lost over the period 2000-2016.
- 3) What do you think of the rabbit invasion of Australia ?