

F-LE Snail Invasion

Task

In 1966, a Miami boy smuggled three Giant African Land Snails into the country. His grandmother eventually released them into the garden, and in seven years there were approximately 18,000 of them. The snails are very destructive and had to be eradicated. According to the USDA, it took 10 years and cost \$1 million to eradicate them.

- a. Assuming the snail population grows exponentially, write an expression for the population, P , in terms of the number, t , of years since their release.
- b. How long does it take for the population to double?
- c. Assuming the cost of eradicating the snails is proportional to the population, how much would it have cost to eradicate them if
 - i. they had started the eradication program a year earlier?
 - ii. they had let the population grow unchecked for another year?



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