**Exponential Functions**

1. Give a formula for the exponential function *f*(*x*) that has the values

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| --- | --- | --- | --- | --- | --- |
| *x* | 0 | 1 | 2 | 3 | 4 |
| *f(x)* | 5 | 15 | 45 | 135 | 405 |

2. A population of 100 bacteria increases by a factor of 3 every day. Write a function that gives the population at any time *t* in days.

3. Under ideal conditions the number of rabbits in a certain area doubles every 3 months. Write a function that gives the rabbit population at any time *t* in months if originally at time t=0 months, there were 40 rabbits.

4. A population of 200 bacteria triples every 12 hours.

1. Write a function that gives the population at any time *t* in hours.
2. Write a function that gives the population at any time *t* in days.