Lecture Handout #04: Sep 8

Population Growth

Population of 10 bacteria doubles every hour:

t (hr)	0	1	2	3	4	5	6
Population	10						

Formula for population: $P(t) =$ _____

Compounded Interest

Value of \$1 at 100% interest, compounded n times per year, after 1 year: $V(n) =$ _____

n	1	2	3	4	5
Value (\$)	2				

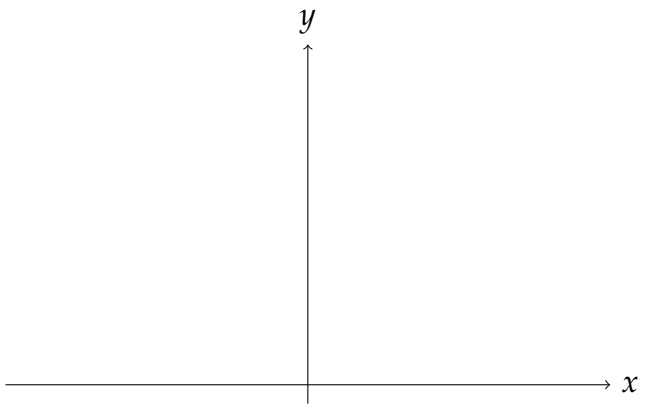
n	10	20	100	1000	1000000
Value (\$)					

- How large does n have to be for $V(n) > \$2.50$? _____
- How large does n have to be for $V(n) > \$2.70$? _____
- How large does n have to be for $V(n) > \$2.80$? _____
- What number do the values approach as n gets larger and larger?

Graphs of Exponentials

Sketch some graphs $y = a^x$ of exponential functions with:

$\boxed{a > 1}$



$\boxed{0 < a < 1}$