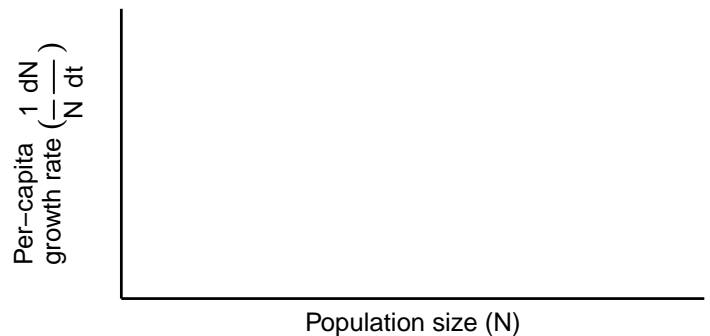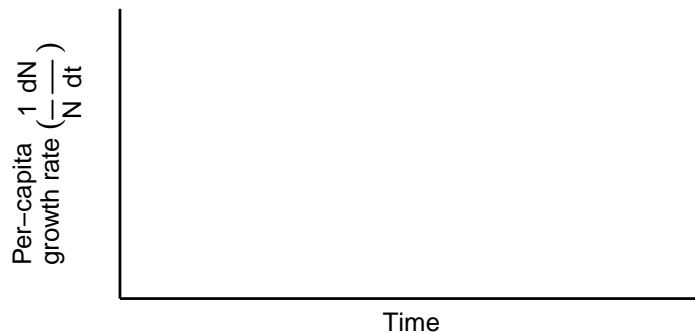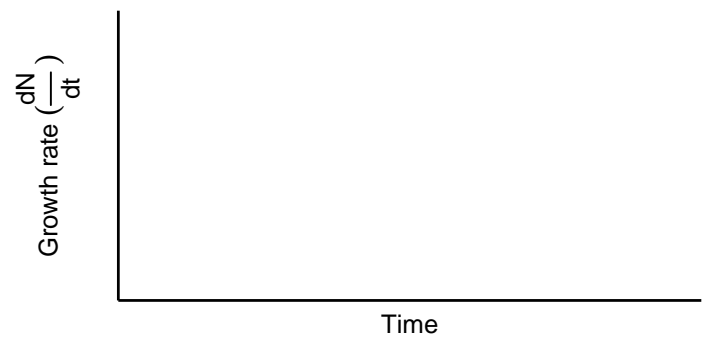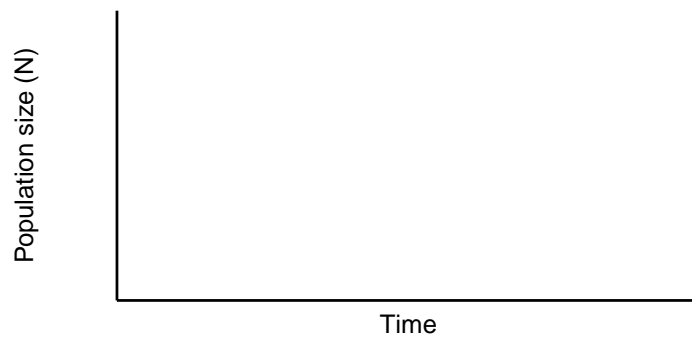## Part 1: Exponential growth

The table below shows the population size over time of a population experiencing exponential growth.

1. Calculate the growth rate of the population $\left(\frac{dN}{dt}\right)$ and per-capita growth rate $\left(\frac{1}{N}\frac{dN}{dt}\right)$, and complete the corresponding columns.

time	population size (N)	$\frac{dN}{dt}$	$\frac{1}{N}\frac{dN}{dt}$
0	10.00	-	-
1	14.92		
2	22.26		
3	33.20		
4	49.53		
5	73.89		
6	110.23		
7	164.45		
8	245.33		
9	365.98		
10	545.98		
11	814.51		
12	1215.10		

2. Plot the population size, growth rate, and per-capita growth rate on the plots provided below. Please ensure to label all axes.

Part 2: Logistic growth

The table below shows the population size over time of a population experiencing logistic growth.

1. Calculate the growth rate of the population $\left(\frac{dN}{dt}\right)$ and per-capita growth rate $\left(\frac{1}{N}\frac{dN}{dt}\right)$, and complete the corresponding columns.

time	Poulation size (N)	$\frac{dN}{dt}$	$\frac{1}{N}\frac{dN}{dt}$
0	10.00	-	-
1	19.70		
2	36.37		
3	60.59		
4	88.39		
5	112.85		
6	129.81		
7	139.73		
8	144.97		
9	147.58		
10	148.85		
11	149.45		
12	149.74		

2. Plot the population size, growth rate, and per-capita growth rate on the plots provided below. Please ensure to label all axes.