Zombies and Bacteria [5]

Target: _____

$e \approx 2.718$

$$P(t) = P_0 e^{kt}$$

Exponential Growth if $k > 0$
Exponential Decay if $k < 0$

$$P(t) = \frac{P_0}{1 + ae^{-kt}}$$

Logistic Growth if $k > 0$
Logistic Decay if $k < 0$

1. Classroom Zombie Data

Trial One

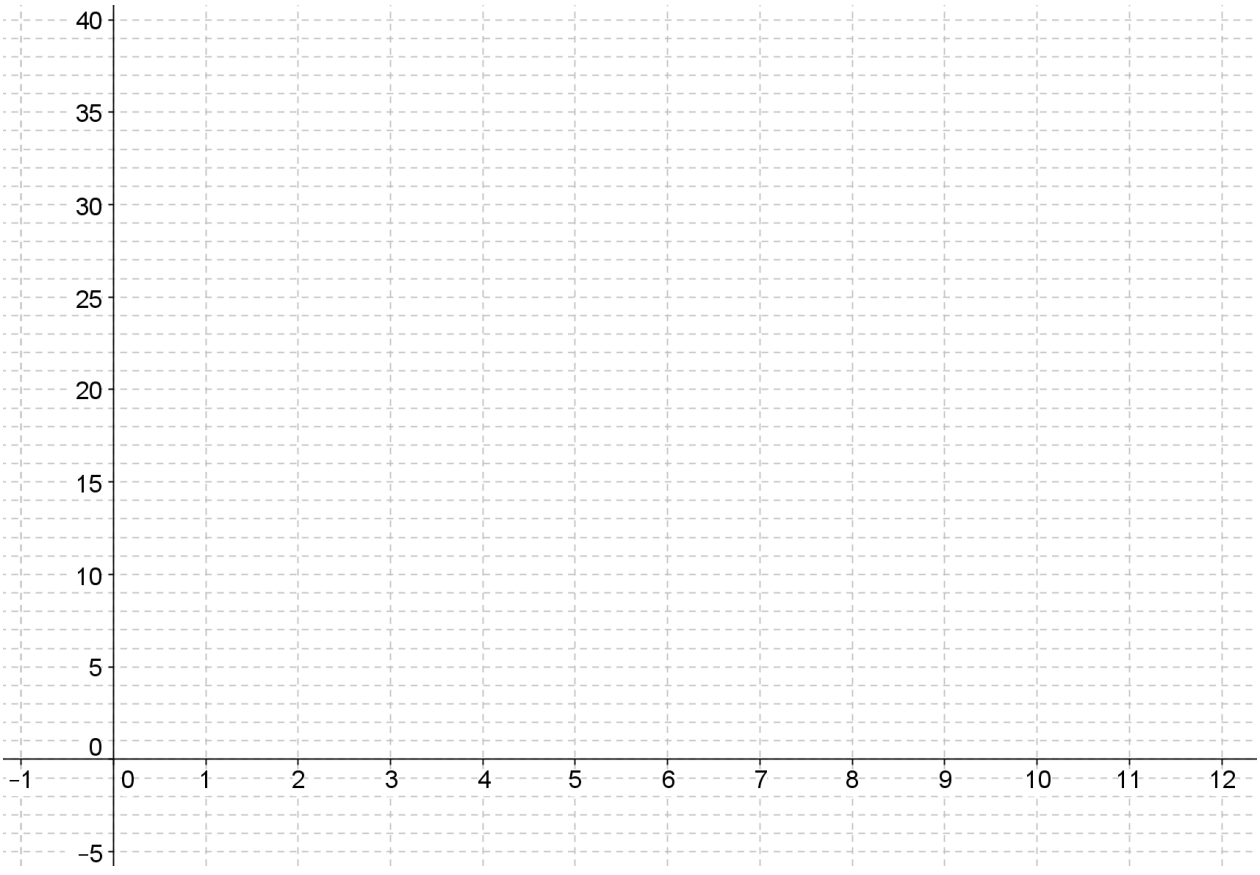
Round #	Zombies	
0	1	
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Trial Two

Round #	Zombies	
0	1	
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Trial Three

Round #	Zombies	
0	1	
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		



2. Why did the rate of infections slow down?

3. Bacteria Data

seconds	bacteria	
0		
1		
2		
3		
4		
5		
6		

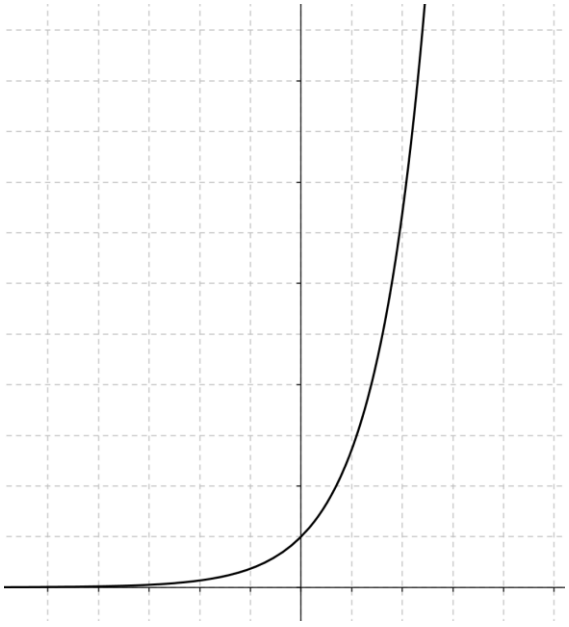
4. How does this growth compare with the zombie growth? Why is it different?

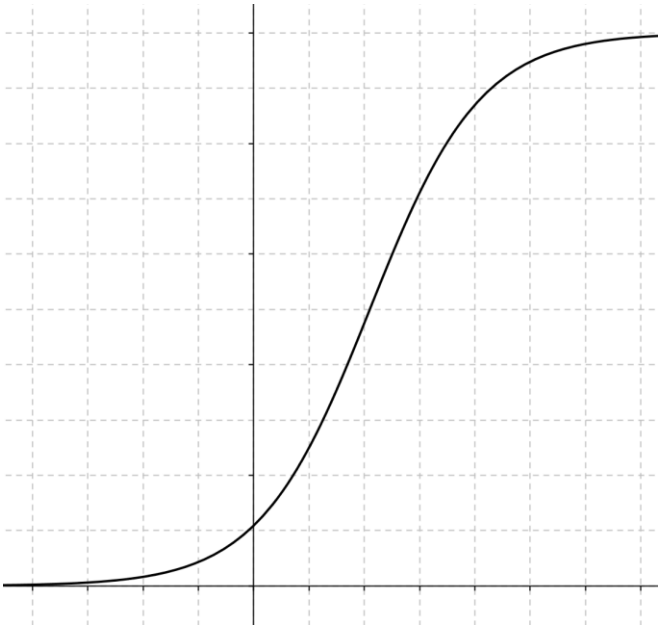
5. **Summarize** the difference between the two types of growth:

_____

_____

_____





HW [6] due Friday

Read example #6 on p284, then **p287 # 41, 43**

Read example #7 and #8 on p285, then **p287 # 51, 56, 57**

p297 #39, 40, 45, 56