Sequences
-An infinite list of numbers

Arithmetic
pattern: +/-
change: constant difference
Recursive Equations = Next = previous ±
Explict functions =

Geometric
pattern: x/÷
change:
Recursive = Next = previous x/÷
Explict Function

My Thoughts
1. 8,000,000

2. Next = previous x 10

3.

Days	Emails	Process
1	8	$8 \cdot 10^0$
2	80	8×10^1
3	800	8×10^2
4	8000	8×10^3
5	80000	8×10^4
6	800,000	8×10^5
7	8,000,000	8×10^6

Recursive Functions

Days	people		EF
1	f(1)=7		f(1)=8
2	f(2)=80		f(2)=f(1)·10=80
3	f(3)=800		f(3)=f(2)·10=800
4	f(4)=8000		f(4)=f(3)·10=8,000

Day		
1	f(1)=7	f(1)=7
2	f(2)=5	f(6)=f(1)+2
3	f(3)=7	f(3)=f(2)+2

Bill

Day 2
80

Day 3

Day 4

Day 5

80×10 = ×10 = ×10 = ×10 = Day 4 ×10

80000000

Sequences
-a infanint list of numbers 3, 5, 7, 9, ... G = infanent

Geometric
pattern: x/÷
Change:
Recursive E. Next = previous x/÷
Explicit function

x	y
	process

Rule

80
×10 ×10 ×10 ×10 ×10

10x

Recursive functions

8, 80, 800, 8000

NEXT = previous x 10

$f(x) = f(x-1) \times 10$

days	people	recursive function
1	f(1)=8	f(1)=8
2	f(2)=80	f(2)=f(1) 8 x 10 80
3	f(3)=800	f(3)=f(2) 80 x 10
4	f(4)=8000	f(4)=f(3) 800 x 10

put in function notation

My Thoughts

1. 8000,000 emails
2. previous x 10
3. $8 \times 10^{x-1}$

$f(x) = 8 \times 10^{x-1}$

Days	emails	process
1	8	8×10^0
2	80	8×10^1
3	800	8×10^2
4	8000	8×10^3
5	80000	8×10^4
6	800000	8×10^5
7	8000000	8×10^6