

Practice writing linear and exponential functions/arithmetic and geometric sequence

1.7 Notes

Q1. <u>Recursive Function</u>	<u>Explicit Function</u>
$(f(x-1)) + 10$	$f(x) = 10x$

Q2. $f(x) = 10$ 300 candies
 $f(x) = 10(30)$
 $f(x) = 300$

Q3.

x	f(x)
0	0
1	1
2	2
3	4
4	8

Q4. $f(x) = 2^{30-1}$
 $f(x) = 2^{29}$
 $f(x) = 536,870,912$ candies

Q5. <u>Recursive</u>	<u>Explicit</u>
$(f(x-1))2$	$f(x) = 2^{x-1}$

Q6.

x	f(x)
0	100,000
1	40,000
2	16,000
3	6,400
4	2,560

Day 4: 2,560
 Day 8: 66

* We multiply by 0.4 instead of 0.6 because 0.4 gives us what Augustus has left.

Q7. <u>Explicit</u>	<u>Recursive</u>
$f(x) = 100,000(0.4)^x$	$(f(x-1))(0.4)$

Q8. It can't end because there will always be a small amount of candy left when dividing by a decimal.