

1.7 Activity

"n is discrete" "x is continuous"

①

Turn in HW/ Day	Candies
0	0
1	10
2	20
3	30

$20 - 10 = 10$
 $30 - 20 = 10$

$$f(n) = 10n$$

$$f(1) = 10$$

$$f(n) = f(n-1) + 10$$

②

30th day

$$f(30) = 10(30) = 300$$

On the 30th day Augustus will receive 300 candies.

③

Model \rightarrow table, graph, equation(s)

Day	Candies
0	$\frac{1}{2}$
1	1
2	2
3	4
4	8
5	16
6	32

$\frac{1}{1} = 2$
 $\frac{1}{2} = 2$
 $\frac{1}{4} = 2$
 $\frac{1}{8} = 2$
 $\frac{1}{16} = 2$

$$f(n) = \frac{1}{2}(2)^n \text{ or } 1(2)^{n-1}$$

$$f(n) = f(n-1) \cdot 2; f(1) = 1$$

④

$$f(30) = 1(2)^{30-1} = 1(2)^{29} = 2^{29}$$

$$f(30) = 536,870,912$$

On the 30th day Augustus will receive 536,870,912 candies with the new model.

"Why the HUGE difference?"
 "What is it about geometric that makes it grow so quickly?"

⑤

Same as #3



