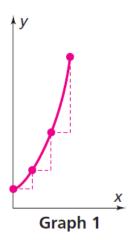
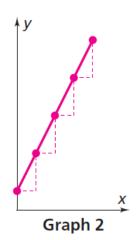
Name:					Date: _	Period:	Score:
			Sec 1H Un	it 3 Day 2	Linear vs Ex	xponential Assignn	nent
1. Jenna is pla	nning to	swim in a	charity sv	vim-a-tho	on. Several r	elatives said they	would sponsor her. Each of their
donations is explained. Complete a table for each donation plan					Taking risks is how we grow.		
Grandmother and so on.	: I will giv	e you \$1	if you swii	m 1 lap, \$	3 if you swi	m 2 laps, \$5 if you	swim 3 laps, \$7 if you swim 4 laps,
Laps	1	2	3	4	5	20 laps	n laps (explicit equation)
Donation							
na di di		64 ·C		42:6		40.16	2 1 627 15 1 1 1 1
so on.	give you	\$1 if you	swim 1 iai	р, \$3 іт уо	ou swim 2 ia	ps, \$9 if you swim	3 laps, \$27 if you swim 4 laps, and
Laps	1	2	3	4	5	20 laps	n laps (explicit equation)
Donation							
Aunt Lori: I w	ill give yo	u \$2 if yo	u swim 1 l	ap, \$3.50	if you swim	n 2 laps, \$5 if you s	wim 3 laps, \$6.50 for 4 laps, and so
Laps	1	2	3	4	5	20 laps	n laps (explicit equation)
Donation							
Uncle Jack: v	vill give v	ou \$1 if v	ou swim 1	. lap, \$2 if	vou swim 2	laps, \$4 if you sw	im 3 laps, \$8 if you swim 4 laps, and
so on.	, —			1,,,	·	, ,	
Laps	1	2	3	4	5	20 laps	n laps (explicit equation)
Donation							
	1	1	1	•	•		,
2. Decide whe Grandmother		n donatio	n pattern	•	ntial, linear other:	, or neither.	
Aunt Lori:				Un	cle Jack:		
Evaluate the values for ea	-			_	-		inputs and outputs into a table of
3. $g(x) =$	4 ^x		4. $g(x)$	= (-3)	x	5. g(x) = -3	g^x 6. $g(x) = 10^x$
$x \mid g(x)$			$x \mid g(x)$			$x \mid g(x)$	$x \mid g(x)$
	-						
]						

- 7. The graphs at right represent $y = 2^x$ and y = 2x + 1.
- **a.** Which graph shows linear growth? How do you know when a graph is linear?
- **b.** Which graph shows exponential growth? How do you know?





Study the pattern in each table and answer questions a and b.

8.

Х	0	1	2	3	4	5
Υ	10	12.5	15	17.5	20	22.5

- a. linear, exponential, or neither. Explain your reasoning.
- **b**. If the relationship is linear or exponential, give its explicit equation.
- **c**. Write at least three more explicit equations for this pattern.

9.

Х	0	1	2	3	4
Υ	1	6	36	216	1296

- a. linear, exponential, or neither. Explain your reasoning.
- **b**. If the relationship is linear or exponential, give its explicit equation.
- **10.** $f(x) = x^2$
 - a. linear, exponential, or neither. Explain your reasoning.
 - **b**. List the first 5 terms.
- 11. $f(x) = 2(2)^x$
 - a. linear, exponential, or neither. Explain your reasoning.
 - **b**. List the first 5 terms.

