## AIM: HOW DO WE GRAPH AND INTERPRET EXPONENTIAL EQUATIONS?

Using a piece of paper, determine the number of sections you have after folding it in half each time. After each fold, record the number of sections formed. Record this information in the table below and then graph the coordinates on the graph provided.

	(1987) 数值數字		
	# of folds	# rectangles	(-d
	0		]2 exponential
2	1.	a	de araph
	2	Ч	to grape
	3	8	2
	4 .	10	B
	5	32	6
	, 6	64	

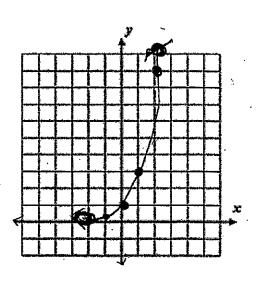
	,	<b>)</b>						
	70 65							-
	60					1.65		
0	-55	-	-					
	-50			<b>.</b>				*********
2	45				galler ele			20.347-532
rectang	40							
-	35	<b></b>				· · · · · · · · · · · · · · · · · · ·	*******	مالزسوالا متوطيات
Ž	30	**********			1 <del>/11/2014-20/</del>			
-	25							
4	20			-				-
0	45					SANGE HORSE	· Electrical	<del>matemates e</del> v. v. v. b
<del></del>	40	*****					1/1 <del>1-11/1</del> /1-11/1-	-
	5-							
				ž	3			$\rightarrow$
Ť	٧	<i>Y</i>	<b>S</b>	Î I			}	!
				#	OF	FO	4c	
							<b>⊸₁</b> ⊃	

y=bx is an expontial equation because it contains an 'x" in the exponent

2. Graph  $y = 3^x \{-2 \le x \le 2\}$ 

X	у
-2	- 111
-1	. 3333
0	1
1	3
2	9

exponential growth y=3° common ratio



the graph will be exponential growth

3. During March Madness, (the NCAA Basketball Tournament) teams play against one another with **only** the winning teams progressing to the next round. The tournament starts with 64 teams. After each round, the number of teams playing at each round is half of the number of teams playing in the previous round. How many teams are left in the tournament by round 5?

# of rounds	# of teams left	,
0	64	17, r=-1
1	32	H2
2	10	173
3	8	<b>刊</b> な
4	4	
5	<b>a</b>	
	expon	ential
	Con	aph

	4	•		<b>l</b> :		i l		_
	70	Mark Mark House of the Control	and the second second	-	Water State of the	aironn aar/jakspu	удений неуфальтура.	7
	65							
(A)	60	•						
· ·								
5	65	Market Carlon Carlon	want for water	ipowelewor.	CALL AND STORY AND STREET, STORY	CAMP OF THE PROPERTY AND	ATTILATED STREET,	SANGHARI, MCMISPHINING
-	50	- the Imphressory		NEGATIONS WAS ASSESSED.	Company of the second	THE THE PERSON	K-GOOM IN MISSEN PARKS	professional contract
ğ	45							
N	40							and and and a shall
Y		San de la respectation de la constitución de la con						
	35	<b>37</b>	AND THE PERSON NAMED OF		and the second	- Charge Colombia (Art. Table)	Air-Carring Way-Order	وهدمانه ومروز المرادر
ł	-30	- Andrews	-	anima anima kana kana kana kana kana kana kana ka	-		e diservise disember	عيمون بهايف بالمؤمو
01	-25	············						
<u>~</u>	20			L				variable consistent to
O		(	Þ					
•	15	Heliphalperates:	in the latest the section of	ETROPHERMANNET	international security	indexend and only	u, Jaior, maya a va dheana.	under the state of
4	40						-	
ᄮ	5-	<del></del>	<u> </u>	Ī				
•	L		,		Į.			
	1	,	2	3 4 1		,		· ·
	.,,		•	,	•	•		•
	4	^		00		^		
	-		) The	16		JOS	2	
			•		-344-	-		

4. Graph  $y = \left(\frac{1}{3}\right)^x \{-2 \le x \le 2\}$  **X Y**-2

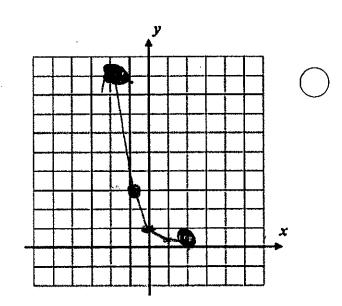
-1

3

0

1

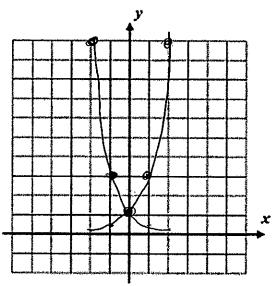
2



Zero, but less than one) then the graph
will be exponential decay

5. Graph  $y = 3^x \{-2 \le x \le 2\}$ 

6. Graph  $y = \left(\frac{1}{3}\right)^x \{-2 \le x \le 2\}$ 



- An equivalent equation to  $y = \left(\frac{1}{3}\right)^x$  is:
- When the interval is given \_\_\_\_\_\_\_
- 7. Write an equation that would be a reflection in the y-axis of  $y = 5^x$ :  $y = \frac{1}{5} \times \frac{1}$
- 8. Identify which of the following equation is an exponential equation.

$$(1.)y = (0.5)^x$$

2. 
$$y = (-2)^{x}$$

3. 
$$y = \left(\frac{1}{3}\right)^2$$

$$4. \ \ y = (4x)^x$$

1.  $y = (0.5)^x$  2.  $y = (-2)^x$  3.  $y = \left(\frac{1}{3}\right)^2$  4.  $y = (4x)^x$  Explain your answer:

9. Identify which table represents an exponential equation.

a.	n	0	1	2	3	4	5
	A(n)	-1	1	3	5	7	9
		1	_ 1		1	1 }	1

_		L	70	+3	49	49	
(b.)	n	0	1	2	3	4	5
	A(n)	1	4	16	64	256	1024
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	L	. 4		, 4	14	L, L

10. Identify which of the following equations represent either growth or decay. Explain your answer.

	Equation	Growth (G) or Decay (D)	Explanation
a)	$y = .65^{x}$		0 < 6 < 1
b)	$y = 1.25^{x^{i}}$	Ь	b > 1
c)	$y = \left(\frac{5}{2}\right)^x$	5	b>1
d)	$y = \left(\frac{1}{4}\right)^x$		0 < b < 1
e)	$y = \left(\frac{2}{3}\right)^x$		0 < b < 1
f)	$y = \left(\frac{7}{3}\right)^x$	6	6>1

		·	