

CH. 8 Exponential Functions Assessment

Name Exemplar PER _____ DATE _____

DID YOU NEED YOUR NOTES? Y or N If yes, for which standard: _____

FLE1	FLE2	FLE5	FIFC7e

Computation

4	3	2	1
Response has no recall errors, <i>minimal</i> procedural errors* and no conceptual errors**	Response has no recall errors, minimal procedural errors and <i>minimal</i> conceptual errors	Response has no recall errors, but has several procedural errors <u>OR</u> several conceptual errors	Recall errors exist <u>OR</u> Steps taken are not related to problem <u>OR</u> Response left blank

Written Responses

4	3	2	1
Response is written in a complete sentence and uses appropriate academic vocab	Response is written in a complete sentence, and minimal errors exist in use of academic vocab	Response is not written in a complete sentence <u>OR</u> no academic vocab	Concept of response is not related to problem <u>OR</u> Response is left blank

*Procedural errors are mistakes made in the math

**Conceptual errors are mistakes made in the steps one take



ALLIANCE TED K. TAJIMA HIGH SCHOOL

1552 ROCKWOOD STREET, LOS ANGELES, CA 90026

PHONE: (213) 241-8533 | FAX: (213) 241-8540

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Hello all and welcome back from a much needed and well-deserved Spring Break. I appreciate you being in school today. You will notice that I am not, and that is because I am home recovering from the trip to Spain I took with Ms. Saiidi and several of your peers. I can't wait to tell you all about it.

But what shall you do today?? Listen, we are in the midst of Reassessment Week and here is what I anticipate doing in the next few days.

Mon 4/22	Tues 4/23	Thurs 4/25	Fri 4/26
COMPLETE Ch.8 Group Assessment	Practice to Reassess Standards from CH. 6 and 7	Reassess Standards from CH. 6 and 7 <i>Progress Grades are being mailed home Fri 4/26</i>	Start Ch.9

Group Assessment Rules

1. You may only talk to the people at your desk.
2. You may only use the iPads for their calculator.
3. Everyone must write! I'm grading each person's test. Show all needed work neatly!
4. If you must use your notes and practice, the most you can get for that particular standard is a score of **2**

Have a great day y'all! - Solis

1. (FLE1) Show your work neatly and circle the correct answer(s).

Barry initially deposits \$200 into a savings account in which the balance increases according to a exponential model. He leaves the money in the account for four years and checks the balance at the end of each year. Which of these tables shows possible annual balances for Barry's account?

A.

Time (years)	Balance (dollars)
1	211.25
2	222.50
3	233.75
4	245.00

linear!

B.

Time (years)	Balance (dollars)
1	210.25
2	221.03
3	232.37
4	244.28

exponential

C.

Time (years)	Balance (dollars)
1	220.00
2	242.00
3	266.20
4	292.82

exponential

2. (FLE2) Show your work neatly and write your answer in the space below.

Rania plots the points below on a coordinate grid.

x	y
-2	$\frac{4}{9}$
0	10
2	22.5
4	50.625
5	75.9375

doesn't show all x-values

x	y
0	10
1	15
2	22.5
3	33.75
4	50.625
5	75.9375

Find an exponential function ($y = ab^x$) that models Rania's data. Show your work.

$$y = 10(1.5)^x$$

3. (FLE2) Show your work neatly and write your answer in the space below.

The value of a computer is decreasing exponentially over time. Its value was \$1,600 when it was purchased. One year later, its value has decreased to \$1,400. Let t = time in years since the computer was purchased, and let $V(t)$ = the computer's value in dollars. Write an exponential function of the form $V(t) = ab^t$ to describe this relationship.

$$V(t) = 1600(0.875)^t$$

t	$V(t)$
0	1600
1	1400

↓ × 0.875

4. (FLE5) Explain your answer(s) in complete sentences in the space provided.

In the year 2010, there were 1,500 foxes in a particular region. Since then, the population has increased by 2.5% per year. If the fox population keeps growing at the same rate, which expression represents the fox population in the year 2050?

- 2.5% → 0.025
- A. $1,500(1.25^{40})$
- B. $1,500(1.025^{40})$
- C. $1,500(40^{1.025})$
- D. $1,500(0.025)^{40}$

Answer choice B is correct as it shows a starting value of 1500, it shows a growth since b is greater than 1 and $b = 1.025 = 1 + 0.025$ and it shows $t = 40$, the number of years from 2010 to 2050.

5. (FLE5) Explain your answer(s) in complete sentences in the space provided.

The number of bees in a certain county is changing according to the function

$f(t) = 300(0.94)^t$, where t = time in years and $f(t)$ = bee population in millions.

Which statement describes this situation?

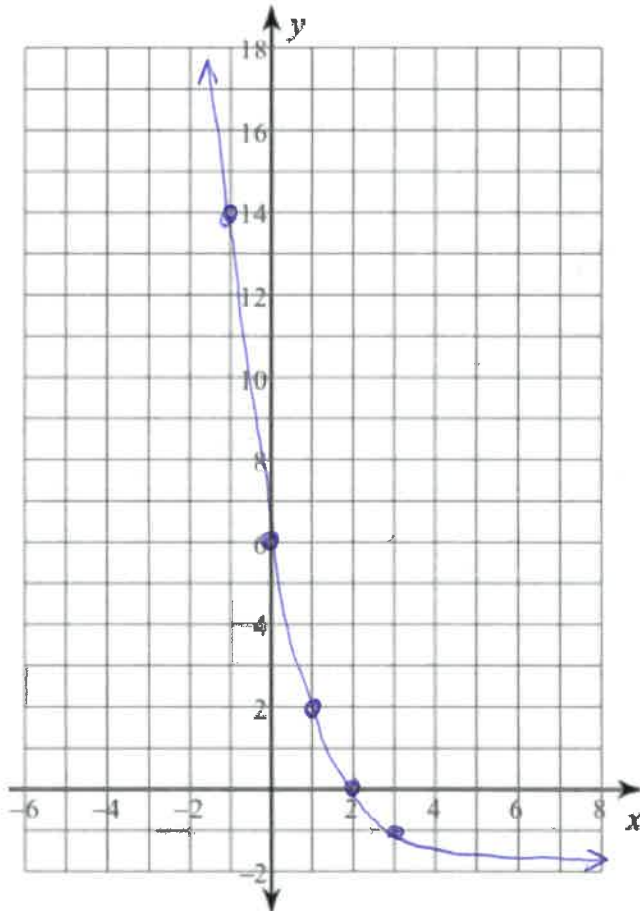
- A. The bee population is increasing by 6% per year.
- B. The bee population is decreasing by 94% per year.
- C. The bee population is decreasing by 6% per year.
- D. The bee population is increasing by 94% per year.

Since $b < 1$, the equation shows a decrease.

$0.94 = 1 - 0.06$, so the decrease is of 6% each year.

6. (FIFC7e) Graph the function below and show your work neatly.

$$y = 4 \cdot \left(\frac{1}{2}\right)^{x-1} - 2$$

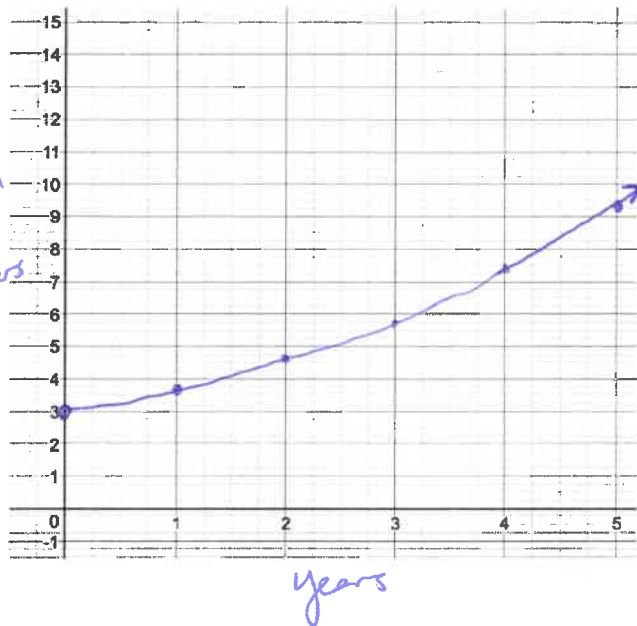


x	y
-2	
-1	$4\left(\frac{1}{2}\right)^{-1-1} - 2 = 14$
0	$4\left(\frac{1}{2}\right)^{0-1} - 2 = 6$
1	$4\left(\frac{1}{2}\right)^{1-1} - 2 = 2$
2	$4\left(\frac{1}{2}\right)^{2-1} - 2 = 0$
3	$4\left(\frac{1}{2}\right)^{3-1} - 2 = -1$
4	

7. (FIFC7e) Show your work neatly.

The number of Disneyland Annual Passholders is growing according to the equation $y = 3(1.25)^x$. If x is the time in years and y represents millions of Passholders, draw a graph that represents this equation.

(NOTE: label your axes!)







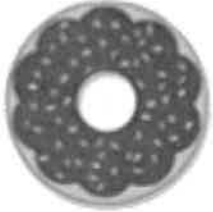

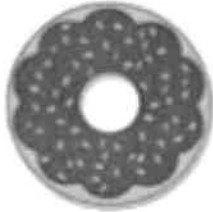
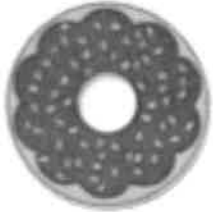

x	y
0	$3(1.25)^0 = 3$
1	$3(1.25)^1 = 3.75$
2	$3(1.25)^2 = 4.68$
3	$3(1.25)^3 = 5.86$
4	$3(1.25)^4 = 7.32$
5	$3(1.25)^5 = 9.16$

CH.6 and 7 – Done practicing??

Name _____ PER _____ DATE _____

All done practicing for a reassessment? Have you completed the Exit Slip? If so, then complete the puzzle below. Show your work!

Find the Cost of Each Treat:

Total:

\$12 .30

\$10 .55

\$8 .80

Total:

\$10 .55

\$9 .25

\$11 .85

0.05 25 1000



0.05 15 1000



0.05 05 1000






ANSWERS (Show your work!)






CH.6 and 7 – Done practicing??

Name _____ PER _____ DATE _____

All done practicing for a reassessment? Have you completed the Exit Slip? If so, then play Tic-Tac-Toe with someone from your group. Whoever solves the system first gets the square! The first one to get three in a row wins!

**SYSTEMS OF EQUATIONS
TIC-TAC-TOE**

$\begin{aligned} 5x + 2y &= -4 \\ x - y &= -5 \end{aligned}$ 	$\begin{aligned} x + y &= 6 \\ -x + y &= -2 \end{aligned}$ 	$\begin{aligned} 2x + 3y &= 4 \\ -4x - 6y &= -8 \end{aligned}$ 
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$\begin{aligned} 3x + 4y &= 6 \\ -12x - 16y &= 8 \end{aligned}$ 	$\begin{aligned} x - 2y &= 9 \\ 3x + 2y &= -13 \end{aligned}$ 	$\begin{aligned} 2x + 3y &= 12 \\ 5x + 2y &= 8 \end{aligned}$ 
$\begin{aligned} 4x + y &= -3 \\ 2x + 5y &= -15 \end{aligned}$ 	$\begin{aligned} -3x + 2y &= 10 \\ 2x - 3y &= -5 \end{aligned}$ 	$\begin{aligned} -2x + 7y &= 4 \\ -4x + 3y &= -14 \end{aligned}$ 