Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Formative Scores: #1: \_\_\_\_\_ #2:\_\_\_\_\_ #3:\_\_\_\_\_ #4:\_\_\_\_\_ #5:\_\_\_\_\_ #6:\_\_\_\_\_

**HW #10**

**Learning Target #1:** “I can apply the rules of exponents.” N-RN.1, N-RN.2

7-100.) Rewrite the following exponential expressions, then calculate the value. [Homework Help ✎](http://homework.cpm.org/cpm-homework/homework/category/CC/textbook/CCA/chapter/Ch7/lesson/7.2.2/problem/7-100)

1. 642/3
2. 255/2
3. 817/4

**Learning Target #2:** “I can create and graph exponential functions and use them to solve problems.” A-CED.1, A-CED.2, N-Q.2,N-Q.3, F.BF.1



**Learning Target #3:** “I can investigate the family of exponential functions through the four different representations, graph, table, equation, and situation, and I can interpret the key features/parameters.” F-IF.4, F-IF.7e, F-LE.2, F-LE.5

7-62. Use the clues in the graph at right to find a possible corresponding equation in *y* = *abx*form. [Homework Help ✎](http://homework.cpm.org/cpm-homework/homework/category/CC/textbook/CCA/chapter/Ch7/lesson/7.1.5/problem/7-62)



**7-87.** Find the exponential function in *y* = *a · bx*form that represents the situation described below. [Homework Help ✎](http://homework.cpm.org/cpm-homework/homework/category/CC/textbook/CCA/chapter/Ch7/lesson/7.2.1/problem/7-87)

1. Passes through the points (0, 4) and (2, 1).

**Learning Target #4:** “I can identify exponential functions as representing growth or decay.” I-IF.8b, F-LE.1c, F-IF.6

7-16. Identify the situation as growth or decay. Then, write the multiplier for each increase or decrease described below. [Homework Help ✎](http://homework.cpm.org/cpm-homework/homework/category/CC/textbook/CCA/chapter/Ch7/lesson/7.1.1/problem/7-16)

1. A 25% increase: Growth or Decay? Multiplier: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. A decrease of 18%:    Growth or Decay? Multiplier: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. An increase of 39%: Growth or Decay? Multiplier: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. A 94% decrease:  Growth or Decay? Multiplier: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Identify each example as growth or decay:

|  |  |  |
| --- | --- | --- |
| LT #2 a | LT #2 b | LT #3 7-62 |
| LT #3 7-87 | LT #4 CL 7-117 |  |

CL 7-117. A share of ABC stock was worth $60 in 2005 and only worth $45 in 2010.

1. Find the multiplier (round to the nearest thousandth – 3 decimal places) and the percent decrease.
2. Write an exponential function that models the value of the stock starting from 2005.
3. Assuming that the decline in value continues at the same rate, use your answer to (b) to predict the value in 2020.

**Learning Target #6:** “I can interpret solutions as viable (makes sense in context) or nonviable (doesn’t make sense in context) within context.” A-CED.3

* In the context of the problem above (ABC stocks) what would a negative exponent represent? Is it viable to have a negative exponent?
* Using the exponential equation from CL 7-177 b, Mr. Davis’ grandparents decided that instead of giving him graduation money, they would invest in the ABC stocks in his name. How much was a share of the ABC stocks worth when he graduated in 2001? Based on all of the information, was this a good investment?