

Exponential Functions

Unit Test Review, Part 2

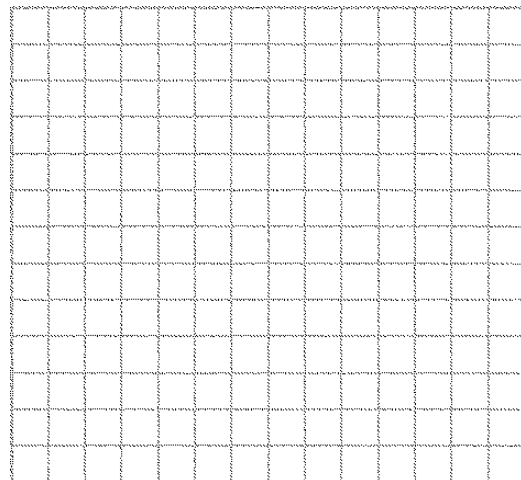
Standards

- FLE.2. Construct Exponential **Growth** functions given a graph or description of a relationship
 FLE.2. Construct Exponential **Decay** functions given a graph or description of a relationship.
 FLE.1.C. Recognize situations in which a quantity grows or decays by a constant rate.

- 1. Kai's brother collects fuzzy insects called tribetts. The tribett population decreases by 30% each year. There were 10,000 tribetts at the end of year one.**

- a. Complete the table to show what will happen to the tribett population over five years. b. Make a graph of the table data.

Year	Tribett Population
1	
2	
3	
4	
5	



- c. Write an equation for the population P after y years.
- d. What will the population be after 10 years? Show your work.
- e. After how many years will the population first drop to under 1,000 tribetts? Show your work.

- 2. Give the growth factor for the following growth rates.**

- a. 7% b. 140% c. 0.4%

- 3. Give the growth rate for the following growth factors.**

- a. 2.3 b. 1.19 c. 1.065

- 4. Give the decay factor for the following decay rates.**

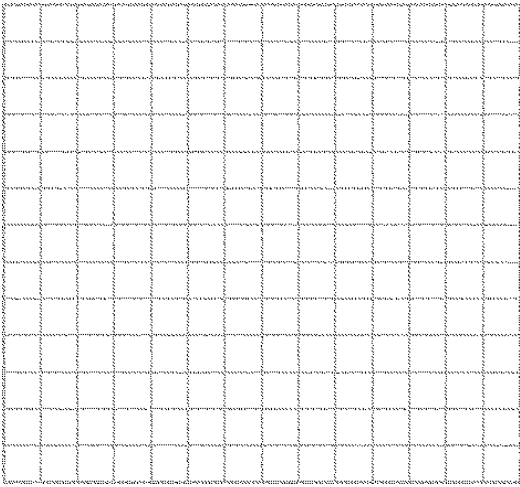
- a. 36% b. 7.5% c. 25.7%

- 5. Give the decay rate for the following decay factors.**

- a. 0.93 b. 0.7 c. 0.0045

6. Belinda has a plan for distributing prize money for a trivia contest. The contestant will receive \$5 for the first correct response. For the second correct response, the total winnings will increase to \$25; for the third correct response, the total winnings will increase to \$125; and so on.
- a. Complete the table to show the contestant's winnings for answering the first six questions correctly.
- b. Make a graph of the table data.

Correct Responses	Winnings (\$)
1	
2	
3	
4	
5	
6	



- c. Write an equation for relationship between the number of correct responses c and the amount of money the contestant will receive m .
- d. Use your equation to find what the winnings will be after 8 correct responses? Show your work.
- e. After how many correct responses will the winnings be at least \$1,000,000,000? Show your work.