

A Wonderland LostAim/Essential Question: **How do we write the rule of an exponential function?****Do Now:**

Is the difference between 2^2 and 2^3 the same as the difference between 2^3 and 2^4 ? Why or why not?	
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Vocabulary/Concept Bank

Important term	Definition

If I wanted to calculate Alice's height after eating 100 ounces of the "doubling cake," how could I do it? Explain in words.	
Using f to represent the function, how can you write an equation for the "doubling cake" using function notation?	
If I wanted to calculate Alice's height after eating 100 ounces of the "tripling cake," how could I do it? Explain in words.	
Using g to represent the function, how can you write an equation for the "tripling cake" using function notation?	
Where would each graph cross the y -axis? What will happen to the graphs as x becomes negative?	
Do the effects of the cake have more or less of an impact as she eats more cake? Why?	

As you read the task below, underline any word you think might be important. Write a question mark next to any concept you don't understand and circle any word you don't understand. Draw a box around the question or task you are being asked to complete, if any, and number the prompts.

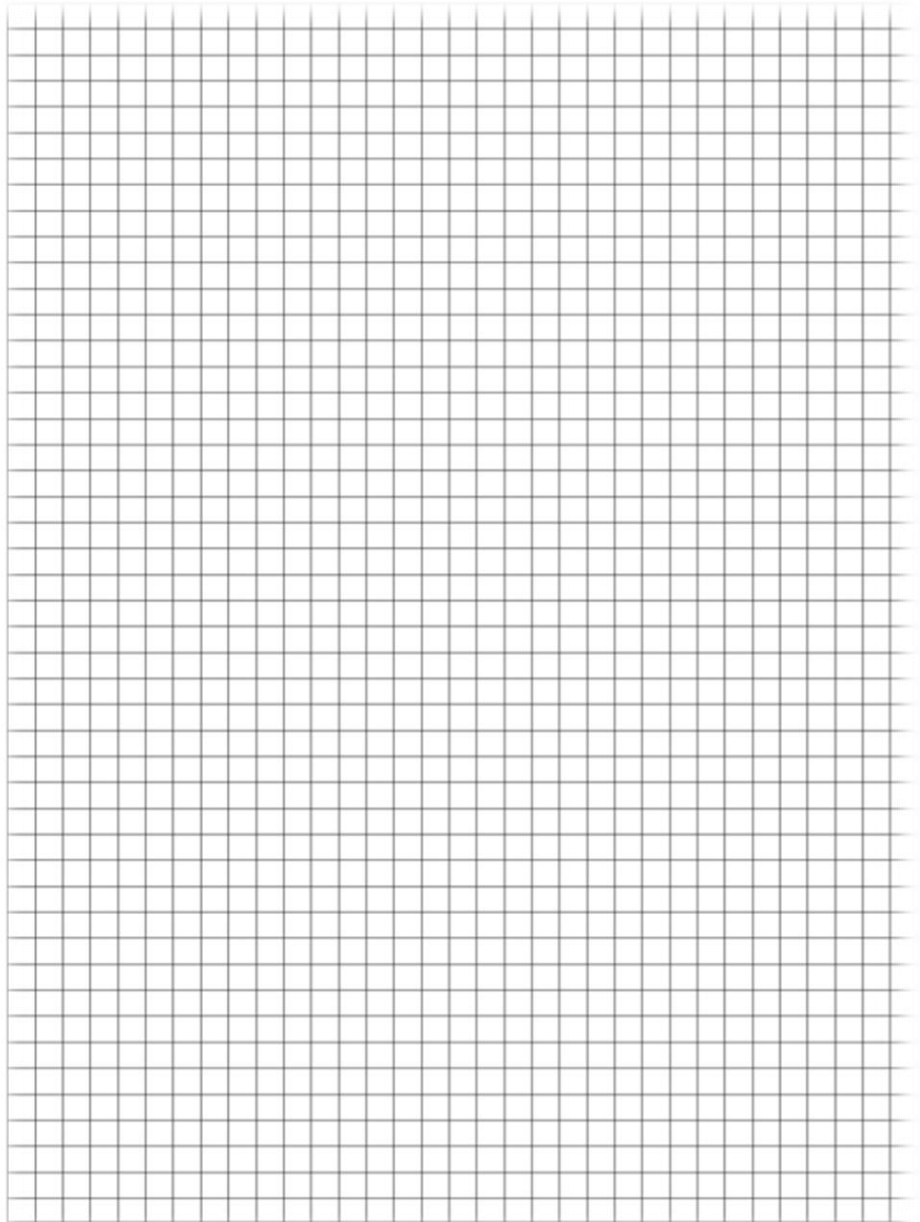
A Wonderland Lost

The Amazon rain forest is gradually being destroyed by pollution and agricultural and industrial development. For simplicity, suppose that each year, 10% of the remaining forest is destroyed. Assume, also for simplicity, that the present area of the Amazon rain forest is 1,200,000 square miles.



1a. What will the area of the forest be after 1 year of this destruction process?	
1b. What will the area of the forest be after 2 years of this destruction process?	

2. Make a graph showing your results from Question 1 and continuing through 5 years of the destruction process. Include the present situation as a point on your graph.



3. Find a rule for how much rain forest will remain after x years. That is, express the area of the rain forest as a function of x .

4. Explain how this situation and graph relate to Alice's situation.