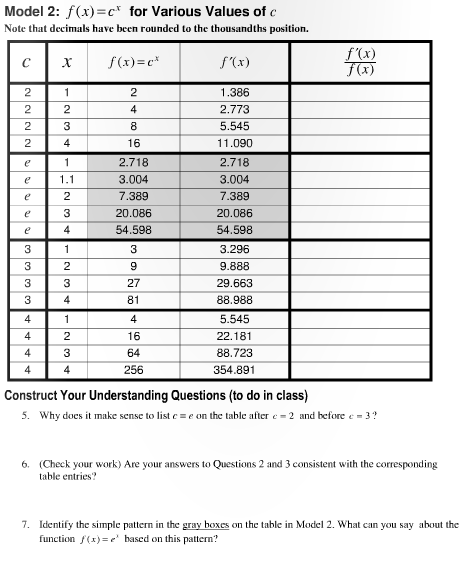


**Construct Your Understanding Questions**

1. According to Model 1, what do the numbers *e* and π have in common?
2. Use the graph of in Model 1 to estimate the value of *f* at x = 1.1

1. In Model 1, estimate the slope of the tangent line to the graph of at x = 1.1
2. Which question above is asking you to find and which is asking you to find ? Explain your reasoning.



Construct Your Understanding Questions

1. Why does it make sense to list on the table after and before ?
2. (Check your work) Are your answers to Questions 2 and 3 consistent with the corresponding table entries?
3. Identify the simple pattern in the gray boxes on the table in Model 2. What can you say about the function based on this pattern?
4. (Check your work) For the generalized function
   1. According to the table in Model 2, it appears that when \_\_\_\_
   2. Does for any of the other values of *c* listed on the table?
5. Fill in the last column in Model 2 (use a calculator if you wish). Round your entries to the thousandths position.
   1. (Check your work) Did you find that when , ?
   2. Do other entries in the table (ie, when ) follow the same pattern? If so, describe this pattern.
6. Based on your answer to the previous question, devise an expression for each derivative.  
   1. For , what is
   2. For , what is
   3. For , what is
   4. For , what is
7. (Check your work) Is your answer to part b of the previous question consistent with the fact that ? Explain.

1. Write a formula that describes for the function for all values of *a*. Check your answer with at least one other group.