

Pathways Reading Guide M4 Section 1

Please read Module 4, section1 in your e-book, pp. 1 – 8. (Click on Module 4, then “text.”)

Be sure to *read with a pencil in hand* and attempt the examples before you read the solution given. Take notes of important definitions and ideas as you read. I don’t expect you to have 100% comprehension of everything in the section, but spending significant time trying to understand the main ideas will assist you as you work on the Investigation during our next class.

Read the first paragraph on page 1 and come to class able to describe the main difference between an exponential function and linear function. Be able to give one example of exponential change and one example of linear change.

Do the paper folding experiment described in Example 1 on page 2 and make a table of values, where the input is the number of folds and the output is the number of rectangles. How do the outputs change from one to the next? Compare your table to that on p. 3 and try to write a formula for the output *in terms of the input values, n* .

What is meant by an exponential function? How does it differ from a quadratic function which also has an exponent?

What is meant by *a discrete function* or *discrete values*? How do these differ from *continuous values*?

Now read Example 2 on pp. 4-5 and before reading too far, ask yourself, *how will the area of each rectangle change with each additional fold?* Are the output values increasing or decreasing? Write a function for the area of one rectangle in terms of the number of folds, assuming that the initial area is 93.5 square inches. How is this function different than that in Example 1. Are the output values increasing or decreasing?

Example 3 offers a clever way to ask your boss for a raise. You might read it just for fun. Be sure to review the vocabulary therein. The video at the end of the section on page 8 is an excellent summary of exponents and the penny problem.