Pathways Reading Guide M4 Section 8

Please read Module 4, section 7 in your e-book, pp. 38 – 48 (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.

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Key Idea:

- An exponential function is one-to-one and thus has an inverse function
- This inverse function is called the logarithmic function
- A logarithm base *b* is *the exponent we take b to in order to obtain the desired number.* For example, the $\log_5 125 = 3$ because we take 5 to the third power to obtain 125. In shorthand, $5^3 = 125$. Remember: a logarithm is an EXPONENT.

Example 23 is a good place to begin your study of this section. Try to answer the question before reading the book solution. Then try Example 24 and study the definition of logarithm on the top of page 42.

What is the difference between a common logarithm and a natural logarithm?

You may be familiar with the properties of logarithms on pp. 45- 47 in the etext. We'll review these in class. The video on the top of page 47 gives an intuitive understanding of the properties. Most helpful!