Mother Nature's Magic:

Natural Functions and their Graphs

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Abstract

This research paper explored several different graphs on the traditional coordinate plane. The coordinate plane has been used for thousands of years, and graphing is a common procedure in math classes that is performed by mathematicians of nearly all ages. However, instead of being shown in a textbook, these graphs have been observed in natural phenomena, in the branches of trees and the leaves of bushes. They were then placed on coordinate planes in order to estimate certain points on these graphs, like the intercepts or the vertex. These points were used to find their approximate equations. The graphs of different functions and conic sections were worked with. Their equations were found by comparing the general graph of each function with the new graph. The shifts in all directions were observed and were taken into account when writing the new equations. The result was new and individual equations that corresponded with the natural graphs.