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The Golden Ratio: An Exploration of the Prevalence of Phi

This project was designed to determine conclusively and mathematically whether or not the presence of the golden ratio is significant in the phyllotaxis of South Eastern Colorado. I measured five arbitrary proportions on each plant within an arbitrary sample of the common bushes, flowers, trees, and weeds of South Eastern Colorado and analyzed them for the presence of the golden ratio. Using these data, I calculated the percentage of the time that the golden ratio was found for each species and for the entire sample. I then calculated the confidence interval. From my data and calculations I can concluded with 95% confidence that between 70.5% and 80.5% of the plant species that I measured will contain the golden ratio. This work conclusively proves the myth of the presence of a "golden ratio" in the common plants of South Eastern Colorado.