

**ZMATH 2016f.01026**

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**Why the golden proportion really is golden.**

Aust. Math. Teach. 72, No. 1, 10-14 (2016).

Summary: Why do certain objects or images such as a piece of furniture, an item of clothing, or even a flower appear visually attractive? The most obvious factors must involve aspects such as size, colour, movement and discrepancy such as in looking at a Salvador Dali painting. Yet there is another subtle factor associated with shape that also can demand, and even attract, attention. This factor concerns the relationship between dimensions such as width and height. One such phenomenon is referred to as the Golden Proportion. Expressed mathematically, this represents a ratio coefficient of  $1 : 1.62$ . Taken out of context, such a figure sounds strange. Indeed, it seems almost bizarre to inform someone that they like something because it is 1.6 times higher than it is wide. However, this article presents many examples of phenomena that appear consistent with such a notion. Herein, the author argues that the analysis of the Golden Proportion engages students in varied mathematical thinking. Specifically, such an analysis invokes measurement, ratio, rational number, and proportion. Most vitally, investigating the Golden Proportion, finding it within the world, and being able to describe its dimensional properties, provides remarkably rich learning opportunities which can foster the awareness of proportional reasoning. (ERIC)

*Classification:* G40 M80

*Keywords:* golden ratio; golden proportion; mathematics and arts