

Phi (Golden Ratio) Rules

Phi (or the golden ratio, as it is sometimes known) has a value of approximately 1.618 and is usually denoted by the Greek letter ϕ . It is named after Phidias, the lead sculptor of the Parthenon in Greece, who is said to have employed it. This ratio plays a prominent role in architectural and furniture composition and design, where it is used to proportion objects for greater aesthetic appeal. **Figure 1** illustrates its basic principle.

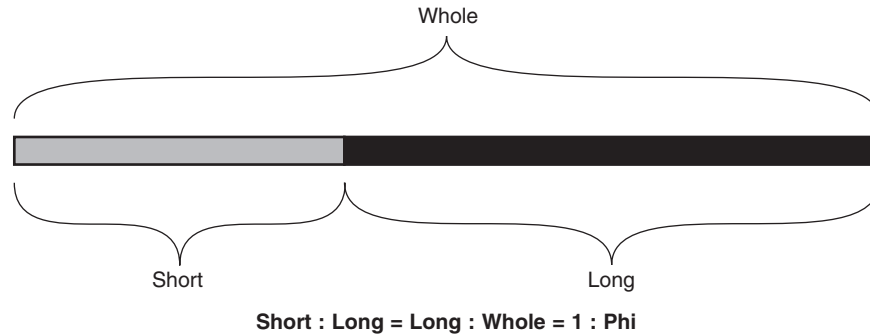


Figure 1: The golden ratio. The long portion of a straight line is 1.618 times longer than the short, and that the whole line is 1.618 times longer than the long portion.

Phi has countless design applications. In woodworking, for example, tabletops are usually about 1.6 times longer than they are wide. Dining chairs often have backrests that are about 1.6 times taller than the seat height. The most appealing drawer proportions, and their placement, are also typically related to Phi.

A rectangle, such as a frame, door or window, that is 1.618 times taller than its width is called a golden rectangle.

How to Use the Phi Rule

A Phi rule eliminates the need for complex calculations when applying the golden ratio in your designs. The Phi rule has a dual scale with normal graduations on the top edge and Phi-scale graduations on the bottom edge. Both faces are graduated: one is marked “Increase by Phi”/“Short side known” to scale a value (in inches) upward by Phi, while the other is marked “Decrease by Phi”/“Long side known” to scale it downward. To scale a measurement, you simply find the identical measurement from the top scale on the lower scale. When checking proportions, either face may be used since the units are not important and the scales are reversible. However, for convenience and ease of use, both faces are labelled as to how they are best employed.

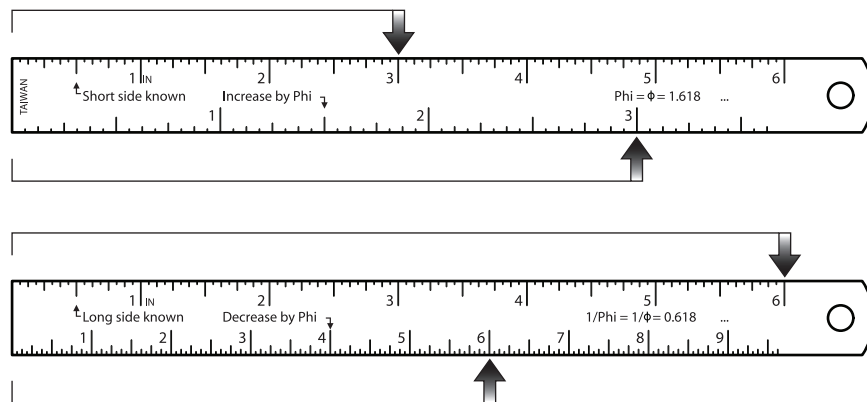


Figure 2: Reading a Phi rule.