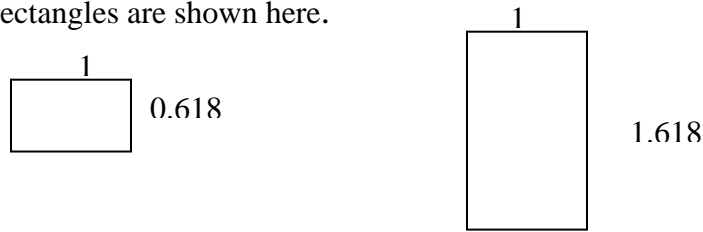


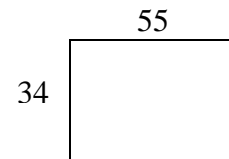
In Search of the Golden Rectangle

Golden rectangles are said to be more pleasing to the eye. These rectangles are not too wide and not too long.

The proportions of such rectangles are shown here.



Rectangles whose side measurements are consecutive Fibonacci numbers larger than 5 are also golden. The Fibonacci numbers are 1,1,2,3,5,8 and so on, where each number is the sum of the previous two numbers.



Keep this in mind as you answer the following questions.

Hint: $\frac{\textit{small}}{\textit{large}} = \frac{0.618}{1}$ or look for consecutive Fibonacci numbers

1. An artist wants her painting to be visually pleasing, she plans to select a canvas that is the shape of the golden rectangle.
If the canvas is 21 inches wide, how long should it be? _____

If it is 89 cm long, how wide should it be? _____
2. A Navajo rug being woven is 6 feet wide. To have golden proportions, the weaver should stop weaving after how many feet of length? _____
3. A standard photograph is 4 inches wide by 6 inches long. Is it a golden rectangle? _____ too wide? _____ too long? _____
4. An internet picture of the front view of the Parthenon, which has golden proportions, measures 15 cm long. What is the height of the internet picture? _____
5. A bowl dating to the Ching dynasty is China has an 8 inch diameter at the top. How deep is it if it exhibits golden proportions? _____
6. A paperback novel in the shape of a golden rectangle measured 17 cm high. How wide is the paperback novel? _____
7. A standard light switch plate is 11.5 cm long. If it is a golden rectangle, how wide is the light switch plate? _____
8. A carpenter is installing patio doors that are golden rectangles. If the door needs to be 6.5 feet high, how wide should they be? _____

Answers:

1. 34 inches, 55 cm
2. 9.7 feet
3. no, yes, no
4. 9.3 cm
5. 13 inches
6. 10.5 cm
7. 7.1 cm
8. 4 feet