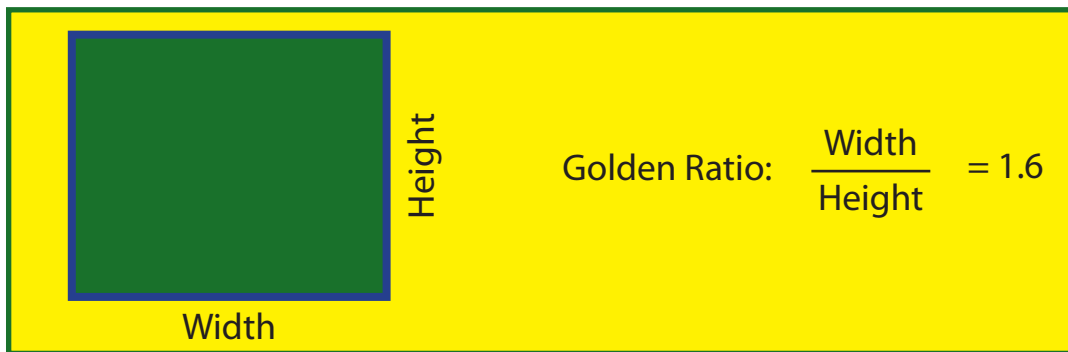


# Math and the Human Body

## Activity 1 - Golden Ratio and the Human Body

The Golden Rectangle is a unique and a very important shape in mathematics. The Golden Rectangle appears in nature and music, and is also often used in art and architecture. The Golden Rectangle is believed to be one of the most pleasing and beautiful shapes for the human eye to look at. The special property of the Golden Rectangle is that the ratio of its width to the height is approximately 1.618:



Did you know that the ratio of the length of your arm to the length from the elbow down to the end of the hand equals approximately the Golden Ratio?

### Try it!

- Measure your arm, starting from the shoulder down to the end of your hand. Let this length equal  $a$ .
- Measure the length of the lower part of your arm (from the elbow to the end of your hand). Let this length equal  $b$ .
- Record your measurements in a table, such as the one given on the next page.
- Find the ratio of the two measurements in the following way: Ratio = (full length of arm) / (length of lower arm) =  $a/b$
- Compare your ratio with the Golden Ratio. How close are your body's measurements to the Golden Ratio? Use Golden Ratio = 1.6
- Measure some other people's ratios (your family members or friends) and compare them to yours and to the Golden Ratio.

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Can you believe THIS is math?

# Math and the Human Body

## Activity 1 - Golden Ratio and the Human Body - *continued*

Person Measured	a = length of full arm (shoulder to end of hand)	b = length of lower arm (elbow to end of hand)	Ratio a: b	Difference between a:b and the Golden Ratio (1.6)
Me				

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Can you believe THIS is math?