- Measurements of Great Pyramid of Giza. Assumed accurate to within 2%.
  - Height of pyramid =481.4 feet
  - Average length of side of base =755.76 feet.
  - Distance from center to midpoint of side of base = 377.88 feet
- *Acceptance Range for φ, allowing for 2% error in measurement*

$$\begin{aligned} .96\left(\frac{1+\sqrt{5}}{2}\right) &\leq \text{ratio} \leq 1.04\left(\frac{1+\sqrt{5}}{2}\right) \\ 1.5533 &\leq \text{ratio} \leq 1.6828 \end{aligned}$$

- Found that:
  - Slant height $s \approx 612.01'$
  - $\frac{s}{a} \approx \frac{612.01}{377.90} \approx 1.61950$, well within Acceptance Range for φ
  - In fact, since $\frac{s/a}{\varphi} \approx \frac{1.61950}{1.61803} = 1.000909$, $\frac{s}{a} \approx 1.000909\varphi$, or in other words, $\frac{s}{a}$ is only off by 0.09% from φ.

5. **Find the ratio of the actual height of the pyramid, h, to half the length of the base, a.**

$$\frac{h}{a} = \frac{481.4}{377.88} \approx 1.27395.$$

6. **Find $\sqrt{\varphi}$.**

$$\sqrt{\varphi} = \sqrt{\frac{1+\sqrt{5}}{2}} \approx 1.27202.$$

7. **How far off is h/a from $\sqrt{\varphi}$?**

$$\frac{h/a}{\sqrt{\varphi}} \approx \frac{1.27395}{1.27202} = 1.001517 \Rightarrow \frac{h}{a} = 100.15\%(\sqrt{\varphi}).$$

Thus the ratio of the height of the pyramid to half the length of the base is within .2% of the square root of the Golden Ratio – still well within most any acceptance ratio.

So now we have two instances that seem to show the Golden Ratio is in the Great Pyramid.