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Φ = 1.618 The Golden Number

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Phi, Pi and the Great Pyramid of Egypt at Giza

August 18, 2012 by [Gary Meisner](#) — 147 Comments

The Great Pyramid of Egypt closely embodies Golden Ratio proportions.

There is debate as to the geometry used in the design of the



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There is evidence, however, that the design of the pyramid may embody these foundations of mathematics and geometry:

- Phi, the Golden Ratio that appears throughout nature.
- Pi, the circumference of a circle in relation to its diameter.
- The Pythagorean Theorem – Credited by tradition to mathematician Pythagoras (about 570 BC), which can be expressed as $a^2 + b^2 = c^2$.

So how might the Great Pyramid have embodied these concepts? There are a number of theories explore.

Update: See also the article on [golden ratios in the site design of the Giza Pyramid complex](#).

A pyramid based on Phi varies by only 0.025% from the Great Pyramid's estimated dimensions

Phi is the only number which has the mathematical property of its square being one more than it:

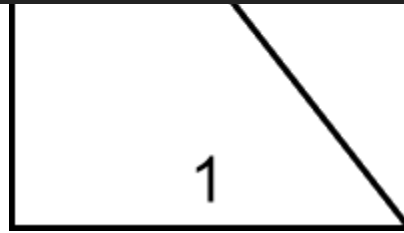
$$\Phi + 1 = \Phi^2$$

or

$$1.618... + 1 = 2.618...$$

By applying the above Pythagorean equation to this, we can construct a right triangle, of sides a , b , and c , in this case a Golden Triangle of sides $\sqrt{\Phi}$, 1 and Φ , which looks like this:



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This creates a pyramid with a base width of 2 (i.e., two triangles above placed back-to-back) and the square root of Phi, 1.272. The ratio of the height to the base is 0.636.

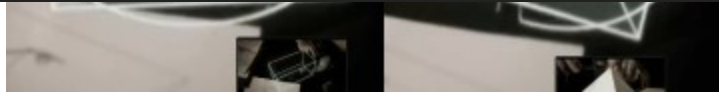
According to Wikipedia, the **Great Pyramid** has a base of 230.4 meters (755.9 feet) and an estimated original height of 146.5 meters (480.6 feet). This also creates a height to base ratio of 0.636, which indicates it is indeed a Golden Triangle, at least to within three significant decimal places of accuracy. If the base is indeed exactly 230.4 meters then a perfect golden ratio would have a height of 146.53 meters, which varies from the estimated actual dimensions of the Great Pyramid by only 0.0367 meters (1.4 inches), or 0.025%, which could be just a measurement or rounding difference.

A pyramid based on golden triangle would have other interesting properties. The surface area of the sides would be a golden ratio of the surface area of the base. The area of each triangular side is $\text{height} / 2$, or $2 \times \Phi / 2$ or Φ . The surface area of the base is 2×2 , or 4. So four sides is $4 \times \Phi / 4$, or Φ , the ratio of sides to base.

A pyramid based on Pi varies by only 0.1% from the Great Pyramid's estimated dimensions

There is another interesting aspect of this pyramid. Construct a circle with a circumference of 8, as the perimeter of this pyramid with its base width of 2. Then fold the arc of the semi-circle at an angle, as illustrated below in "Revelation of the Pyramids". The height of the semi-circle will be the radius of the circle, which is $8/\pi/2$ or 1.273.

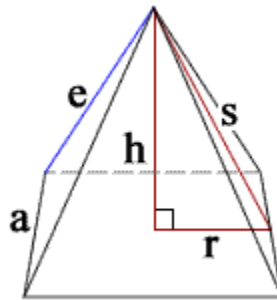


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This is only 1/10th of a percent different than the height of 1.272 computed above using the Gold Triangle. Applying this to the 146.5 meter height of the pyramid would result in a difference in height between the two methods of only 0.14 meters (5.5 inches).

A pyramid based on areas is identical in geometry to one based on Phi

In addition to the relationships of the pyramid's geometry to phi and pi, it's also possible that the pyramid was constructed using a completely different approach that simply produced the phi relationship. The writings of Herodotus make a vague and debated reference to a relationship between the area of the surface of the face of the pyramid to that of the area of a square formed by its height. If that's the case, it is expressed as follows:



Area of the Face = Area of the Square formed by the Height (h)

$$(2r \times s) / 2 = h^2$$

We also know by the Pythagorean Theorem that $r^2 + h^2 = s^2$, which is equal to $s^2 - r^2 = h^2$

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Solve for zero:

$$s^2 - s - 1 = 0$$

Using the quadratic formula, the only positive solution is where $s = \text{Phi}$, 1.618.....

This same relationship is shown on the [Mathematics of Phi](#) article, where we show how Phi is calculated on dividing a line so that the ratio of the line to the larger section is the same as the ratio of the larger section to the smaller section. If the height area to side area was the basis for the dimensions of the Pyramid, it would be in a perfect Phi relationship, whether or not that was intended by its designers would demonstrate another of [the many geometric constructions which embody Phi](#).

A pyramid based on a constant gradient varies by 0.8% from the Great Pyramid's estimated dimensions

Yet another possibility is that the Great Pyramid is based on another method, known as the seked. The seked is a measure of slope or gradient. It is based on the Egyptian system of measure in which 7 palms and 1 palm = 4 digits. The theory is that the Great Pyramid is based on the application of a seked of 5.5. This measure means that for a pyramid height of 1 cubit, which is 7 palms, its base is 5.5 palms. The ratio of height to base then is 7 divided by 5.5, which is 1.2727. This is very close to the square root of Phi, which is 1.27202. The slope of a pyramid created with sekeds would be 51.84° that of a pyramid based on Phi is 51.83°. The seked method was known to be used for the construction of some pyramids, but not all. If used on the Great Pyramid it should have resulted in a height of 146.6 meters on a base of 230.4 meters. This is 0.118 meters (4.7 inches) greater than the actual estimated height of the Great Pyramid. This variance of 0.8% thus does not match the geometry of the Great Pyramid as closely as the geometries based on Phi or Pi. This result is very close to the dimensions of the Great Pyramid. The question remains though as to why 5.5 would be chosen over some other number for

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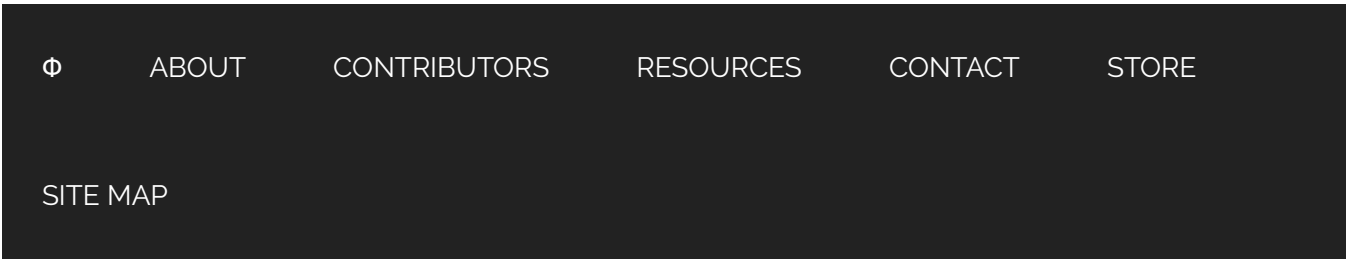


Its near perfect alignment to due north shows th little was left to chance

One thing that is clear is that the dimensions and geometries were did not happen by chance. We civilization with the technological skill and knowledge to align the pyramid to within 1/15th of a d true north leave the dimensions of the pyramid to chance? If they did not intend the geometry th in a rather precise angle like 51.83 degrees, why would they have not used another simpler angle divisions of a circle such as 30, 45, 54 or 60 degrees? Only one other Egyptian pyramid used this or angle of incline, the Meidum pyramid, and it's a step pyramid with three tiers. Given that there a ways based in simple geometry by which the Great Pyramid could have ended up with this precis seems unreasonable to suggest that none of them apply, until another equally plausible and accu can be presented.

Other possibilities for Phi and Pi relationships

If the Egyptians were using numbers that they understood to be the circumference of the circle to diameter or the golden ratio that appeared in nature, it's difficult to assume that they truly underst actual decimal representations of pi and phi as we understand them now. Since references to phi



degree of accuracy using simple integers. Pi can be approximated as 22/7, resulting in a repeating number 3.142857142857... which is different from Pi by only 4/100's of a percent. The square root of 5 can be approximated by 14/11, resulting in a repeating decimal number 1.2727..., which is different from Phi by less than 6/100's of a percent. That means that Phi can be approximated as 196/121.

The Great Pyramid could thus have been based on 22/7 or 14/11, which is the same as 7/5.5, in the geometries shown above. Even if the Egyptians only understood pi and/or phi through their integer approximations, the fact that the pyramid uses them shows that there was likely some understanding of their mathematical importance in their application. It's possible though that the pyramid dimensions could have been intended to represent only one of these numbers, either pi or phi, and the other mathematics would have included the other automatically.

We really don't know with certainty how the pyramid was designed as this knowledge could have been lost. The builders of such incredible architecture may have had far greater knowledge and sophistication than we may know, and it's possible that pi, phi or both, as we understand them today, have been the factors in the design of the pyramid. It could be that they chose other approaches that resulted in almost identical geometries.

A detail of the geometries and calculations is below:

Pyramid	Base in Meters	Height in Meters	Base/2 in Meters	Ratio of Height / (Base/2)	Angle using (ATAN) Radians	Convert Angle to Degrees	Variance Actual to Phi
Great Pyramid of Giza	230.4	146.50000	115.20	1.271701	0.90443531	51.82033	
Phi Geometry	2.0	1.27202	1.00	1.272020	0.90455689	51.82729	

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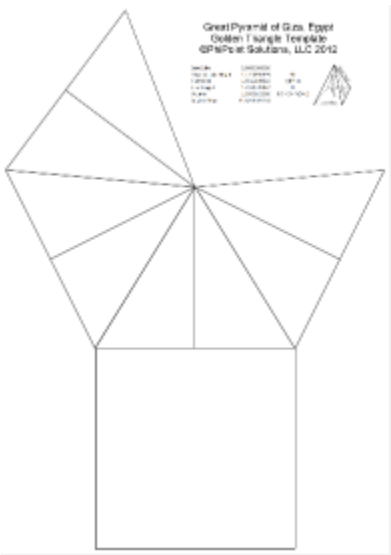
One fact and one interesting question remains

The fact is that whatever method was used in its design, the end result represents the geometry of a golden triangle based triangle with a high degree of accuracy.

The interesting question is “why did they choose this specific shape geometry and configuration of pyramids for the Great Pyramid?” It’s different than the rest and was clearly done with intent. Was it appeared more beautiful, more aligned with nature? If not that, what other reasons did they have captured this one number associated with nature and beauty?

Construct your own pyramid to the same proportions as the Great Pyramid

Use the template below in [gif](#) or [pdf](#) format:



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http://en.wikipedia.org/wiki/Great_Pyramid_of_Giza

http://en.wikipedia.org/wiki/Ancient_Egyptian_units_of_measurement

<http://www.kch42.dial.pipex.com/sekes0.htm>

<http://earthmatrix.com/great/pyramid.htm>

[Great Pyramid Giza Site Complex Golden Ratios](#)

Filed Under: **Design/Art**

Tagged With: **pyramid**

Comments



Nico says

January 5, 2013 at 4:26 pm

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(which is exactly 2 higher)

also,

If you do some calculations on the height it turns out to be $b = 1/2 \cdot \pi \cdot h$ to come exactly to the golden ratios for the surfaces. (b=base,h=height)

Reply



Caroline P Timmis says

February 16, 2015 at 6:01 am

The mathematical argument concerning the discrepancies observed are meaningless. The dimensions of Khufu will have been perfect upon construction. Movement, over time will result in said discrepancies. Enoch Pray

Reply



Limok says

January 2, 2016 at 11:39 am

<https://youtu.be/HiQ8l7Vbgic>

Reply

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Subsequent settling as well as temperature variations based on sun exposure to the smooth versus rugged surfaces of today –all would seem to allow adjusting minute variations between calculated and physical measurements. Robert O. Pritchard
Cheboygan MI 5.13.16

[Reply](#)

ben says

October 24, 2016 at 10:43 pm

The dimensions of khufu MAY have been perfect. I do agree with you though.

[Reply](#)

Edward Gary Wick says

July 12, 2016 at 2:24 pm

If the base was 440 cubits, $440/2 = 220$. Draw a horizontal line 220 cubits long, now off two end points draw two vertical lines. One of the two lines at $(220 * 1.62) 356.4$ follow radius to where it intersects the other vertical line. From the horizontal line to the intersection it is 280.3943 cubits.

You can do this with a square. PHI and a piece of string.

Φ

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Panagiotis Stefanides says

February 6, 2013 at 1:34 pm

http://www.stefanides.gr/pdf/2012_Oct/PHOTO_12.pdf

p.stefanides

Reply



kerry says

February 11, 2013 at 2:44 am

I find it quite interesting that there have been no plans or blueprints found of the great pyramid. The Egyptians were meticulous when it came to writing. Surely they had plans in which to work from?

Reply



Beto says

June 13, 2013 at 6:47 pm

Maybe it wasn't the Egyptians who planned and built it.

Reply

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Sphinx.I think they were build by some advanced civilization either living on Earth o another place in the Universe.

Reply



Mark Windsor says

October 24, 2015 at 1:36 am

The civilisation that existed in Noah’s day (before the Great Flood) was INCRE advanced. It is doubtful they were as advanced as us, but they had knowledge earth science, physics, and metallurgy that still confounds our scientists of to For example, in the current study of the remains of Noah’s Ark, researchers discovered metal studs used in the construction that are made of steel, platini and aluminum. The latter of which is not even found in nature. Also, in an date story that made the newspapers in the early 20th Century, someone living in Chicago found a hand bell encrusted in a lump of coal. It dated back to the sa Antediluvian Period of history, and not only did the bell still ring perfectly, its composition was of two metals that metallurgists today say they cannot be combined. Yet the pre-Flood civilisation was able to do it. Incidentally, the leng Noah’s Ark is the same exact number of cubits as the height of the Great Pyra The slope angle of the Great Pyramid is related to the speed of light (not Einst calculation but the perfected speed of light mathematically discovered in the € 1970’s). Just those two pieces of information are too coincidental to be dismi as accidental. And then there is all the modern research that has shown how t Great Pyramid is actually some kind of machine to generate power. Thanks to inventions of aeroplanes and modern navigation instruments, a number of pyr have been uncovered in the last 80 years. One underwater off the coast of the

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https://www.goldennumber.net/phi-pi-...

10/11/19, 4:49 PM

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was, one can only speculate what other technology those people had (flying c genetic experimentation?). In any case, regarding the question of “who built th Great Pyramid”, my money is on them. To generate wireless electricity and/or generate a worldwide A440 harmonic resonance, who knows. It just really stin that all this information and research and knowledge has been surfacing since and yet we STILL cannot purchase a Powermid Mark III for our homes. No wo replica of the Great Pyramid has ever been attempted, nor has any corporator to develop the technology. It is a bit odd. >:\

Reply

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didn't you know the ark was "discovered" AGAIN 3 decades later in another location. Sorry, Mark, but Noah's Ark has not been found, and Ron Wyatt's discovery has been disproven. You might find the following Web site helpful <http://www.tentmaker.org/WAR/>


All that aside, yes I agree the Great Pyramid is one heckuva piece of engineering and a mystery. Besides the possibility of it having been built by an ante-diluvian race, there is even a theory that says a pre-Adamite (pre-Adamic?) race built the pyramids (plural meaning the Great Pyramid and now-underwater ones). There are quite a few fascinating books on this subject as you probably know.



Mark says

December 11, 2016 at 4:23 pm

It is the Atlantean civilization of which you speak.



දසුන් says

September 27, 2019 at 12:29 pm

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https://www.goldennumber.net/phi-pi-...

10/11/19, 4:49 PM

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kirazeek says

February 11, 2014 at 6:26 am

simply we are not alone

[Reply](#)

Gage says

April 14, 2014 at 7:15 pm

They probably just got rid of them so robbers wouldn't be able to get into the tomb that held the pharaoh and his treasure.

[Reply](#)

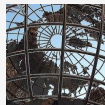
Franc says

July 8, 2015 at 8:37 am

Ahh,... the tomb was empty.

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no mammals were ever found in a pyramid. This is man's attempt to categorise something that can not be explained. Usually gets put in the religious box and everyone seems happy with this explanation. Greeks and Romans both studied in Egypt and took the knowledge into the wider world. This is where sacred mathematics, geometry were learned... Plato... Pythagoras... solids, Pythagoras etc....



D. says

April 8, 2014 at 7:03 pm

There are Egyptian figures all through the region...of course they built it. Romans and Greeks learned mathematics, religion, "government" agriculture, and self-defense from them. The tradition of learning was mostly oral and done by doing, not necessarily by writing everything down.

The Egyptian culture was well advanced hundreds of years before anyone else "discovered" the Pyramids and Egyptian culture.

Reply



Franc says

July 8, 2015 at 8:44 am

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Reply



eric says

June 26, 2014 at 1:18 am

i think aliens built them

Reply



Steve S says

November 20, 2018 at 10:53 am

Annunakki much? Lol agreed... i think the egyptians were under the influence of... A
aliens

Reply



anonymous says

January 11, 2017 at 5:55 pm

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Reply

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and like us, studied and tried Learn from them , hence the step pyramid at Sacqara, which is basically a multilevel mastaba. If you were an advanced citizen utilization of humans, and wanted to hide a wealth of information that would survive for 5000- 10,000 years, with no maintenance from future humans, and you wanted to make sure it was found and studied to reveal the hidden information within its construction. A great stone pyramid sure would be one an ideal way of doing it!

Reply



Gary B Meisner says
October 23, 2018 at 9:29 am

The books of Graham Hancock, such as Fingerprints of the Gods, present some very interesting evidence-backed theories along those lines. There are many reasons to believe that the reigning view of the beginnings of human civilization around 4000 BC is incorrect, and that the evidence shows advanced civilizations at a much earlier time.

Reply



Carson Wright says
December 26, 2018 at 7:39 am

Perhaps the plans were destroyed when the library in Alexandria was burned. Who knows what trove of knowledge disappeared in that travesty.

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Elton says

June 13, 2013 at 9:45 am

There are three possible culprits for the design and construction of the Great Pyramid. They

Father Abraham who came out of Ur and brought with him the secrets of Astronomy.

Joseph, who was sold into Egypt who was trained by Jacob/Israel in how to read Hieroglyph

And someone so bizarre that it's unthinkable to the Archaeologist's mind. A far out, far away, Civilization that had mapped the Earth's longitudes with the same precision that we have. We time, they used the Precession of the Equinox.

Reply

mothergoddess says

June 9, 2015 at 5:27 pm

Eldon, I truly do believe, after a great deal of research, that ancient people in Europe had order of mathematics and geometry as far back as 25,000 BC or even from Africa (Blor cave, ochre stone) and also had "signs" as a very basic language, that are found in ancie cultures around the world (waves, circles, dots, swastika, etc). If we can have genius' th they could have too. Many hi IQ people today have Schizophrenia, Aspergers, etc and a exceptional people who are mentally healthy- In other words people who see the world t different perspective. The ancients could have had a few that passed on their knowledg eventually became a nomadic priesthood (astrologers) that left monuments (pyramids, circles, etc) everywhere. About 3500-4000 BC S at Skara Brea there were found 5 types

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Digby says

June 10, 2016 at 12:32 pm

i think Enoch the shepherd king built the great pyramid of giza

Reply



Anand says

June 12, 2016 at 1:14 am

Pyramid architecture is surprisingly advanced, but modern science tells what man to accomplish, so it may have been our world civilization building these amazing structures of advanced knowledge. The site at <http://1008anand108.page.tl> shows some of the mathematical perfection by the reorganisation of the ancient yantra mandala as pyramid architecture, closest to sun pyramid in Bosnia perhaps. However when and who was building it we do not know, because later clues may be just from one period of time. We plan to build by pyramid architecture a climate ship as Pyramid Architecture Universitas Academy, and welcomes people wanting to form the Academy to join in.

Reply



ATLANTIAN MAN says

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			<p>Anyhow, here it goes and whoever wants to look into it, may the light be with h and show him the way further ahead.</p> <p>I will not provide evidence, just the hint and whoever dissagrees or gets upset even goes ballistic let that be his own problem. I don 't care about whatever no willing to debate.</p> <p>The creators of the Great Pyramids were living in the age of well before the Gr Flood.</p> <p>Most possibly if not certainly they were ancestors of what was later to be the people of the Cretan Civilisation with origin from that same island that is calle Crete nowadays.</p> <p>I know i know.... i told you, only a hint and no proof but fir the seeker of truth th should be more than enough to investigate and debate for himself.</p> <p>Sad thing though is that classic academia does not offer much matterial to th direction required making ones study on the matter kinda tricky and hard if no impossible since the right clues are hidden or missinterpreted by the ones of " interests.</p> <p>Peace and keep your thoughts inside whatever the case.</p> <p>The Pyramids will show in time that they were tools of knowledge and technol used for the wellbeing of the peoples and the generations thereafter, being something like a poorly understood book for where we are brought nowadays</p> <p>In short, the pyramids were build by the Old Cretans which have a living bloodl</p>		

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Just to stir a few minds into productive thinking.

The Atlantians were of Greek origin but occupied a different sum of areas far from Greece which was not what is shown by modern map borders but much much greater than modern suppressed Ελλάδα.

As such it was to the west of modern Europe and the signs of that departed Greek civilisation named Atlantis, albeit making important civilisation and technological steps after many hundreds of years, was found out of balance in respect to the Έλληνες that were of the original line and in the basic greater part of the class Ελλάδα. That basic central part of Greece was surrounding all of the Mediterranean Sea and going far far into the adjacent lands.

So when the Atlantians to the west of modern Europe went out of balance they thought that it would be a great idea to make war with Greece. You see after many aeons it was basically dismissed or forgotten that they were of the same origin and thought they would be better and that they were different.

So it happened. Long before the Great Flood.

And they lost to the Greeks....

as they were still inferior in many key and basic values no matter the technology just like today where people just think but do not know.

I bet they did not teach you this at school or university...

No matter what you think, if you look into it you will see...

Take care and as I said : PEACE !

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greg says

August 17, 2013 at 6:41 am

I also notice the ratio in courses to width in the grand gallery. 22 steps, at 7 ft of width. I discussed this in respect to resonance with Christopher Dunn in Glenview IL in 1999. I never heard back on that.

[Reply](#)

Dave Lightbody says

September 3, 2013 at 4:08 pm

Interesting to see this article repeat the same (and understandable) erroneous conclusion drawn by many previous works regarding the Great Pyramid and the supposed deliberate occurrence of Phi in its dimensions. In fact, the occurrence of Phi was an inadvertent by-product of the deliberate use of circular proportions in the structure, by its Old Kingdom Egyptian architects. The circular proportions (which explain why Pi is observable) were thought to bestow encircling ritual protection on the monuments, and this was included deliberately there and on other pyramidal tombs, and in the proportions of the Great Pyramid's tomb chamber. Egyptology Professor Peter Verner, Edwards and myself (background in archaeology and engineering and studied this for years) all concur on this point. It was circular proportions that determined the shape of the pyramid at Giza for Khufu, not Phi or any Golden Ratio, which were culturally unknown and irrelevant for the Ancient Egyptians whose life was based on practical, functional geometry and

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Dr Dave Lightbody.

Reply



Gary Meisner says

September 3, 2013 at 10:31 pm

Actually, the article concludes with this: "It's possible though that the pyramid dimension could have been intended to represent only one of these numbers, either pi or phi, and the mathematics would have included the other automatically. We really don't know with certainty how the pyramid was designed as this knowledge could have existed and then been lost. There's still much we don't know about the pyramids, and there are those who disagree with the traditional beliefs held about them. I respect your work and viewpoint, but think there is merit in presenting viable alternatives for the reader.

Reply



mark worrell says

February 17, 2014 at 6:59 pm

Dr.lightbody.....I am sure your a busy man but I truly need to discuss some very important issues that I think I have answers that I just came across the last couple months...your article here is part of it and I think you may understand me on this one....I look forward to speaking with you if you choose so..take care **Mark.....markd.worrell@gmail.com**

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Scott Tucker says

September 27, 2013 at 10:43 am

You state that "phi is the only number which has the mathematical property of its square being one more than itself." This is not true. If you solve the equation $x^2 - x - 1 = 0$, you get 2 solutions, one of which is phi. The other number is negative and would be irrelevant in constructing something. But to be accurate, you should probably change your assertion to "phi is the only *positive* number...."

[Reply](#)

Gary Meisner says

October 1, 2013 at 3:30 am

That is partially correct. There are indeed two solutions. One is 1.618..., which is known with an upper case. The other is the -0.618, and 0.618 is the reciprocal of Phi, also often known as phi with a lower case. So both of these numbers are known as "phi", with one solution being its negative version.

[Reply](#)

Paul Hansen says

November 1, 2013 at 6:36 am

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covenant which is also the same exact measurements of the stone arc found inside the King Chamber in the Great Pyramid.

Reply



Edward Gary Wick says

July 14, 2016 at 2:05 pm

The Hebrew's were in Egypt for how many years before Moses? I don't see them changing their unit of measurement on their own. Heck, we can't even go metric.

Study "The Battle of Kadish". Canaan was part of Egypt at the time of Moses. Thutmose fought a battle at Tel Megiddo (Armageddon) to secure or take back this land from the upstart Amorites. This land and lands much further north were Egyptian territory up to past the time of Ramses II. The wilderness that Moses wandered were just outside of Egyptian territory. When Moses died the Hebrew's reentered Egyptian territory. If the Egyptian army would have won the "Battle of Kadish" the Hebrew's would most likely have been the occupying force. Moses never was "un-banished" from Egypt.

Reply



Abdu says

November 23, 2013 at 3:05 pm

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Gary B Meisner says

March 8, 2016 at 7:33 am

The text above has been revised. Thank you for the correction.

[Reply](#)

Sean says

December 22, 2013 at 6:43 pm

They used a wheel to measure the dimensions of the base. They unknowingly introduced pi.

[Reply](#)

Gary Meisner says

December 22, 2013 at 11:09 pm

And perhaps they unknowingly aligned the pyramid to within 1/15th of a degree to true too? Doesn't the evidence more readily suggest a high degree of sophistication in their knowledge?

[Reply](#)

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True north is not difficult for anyone who observes Polaris – which from Egypt give nice line on true north – or, for that matter establishes East and West at the solstic prefer a simpler solution that using wheels for measurement accidentally included Golden Mean.

For that matter using ‘palms’ and ‘cubits’ could accidentally include the golden mea our skeletons include the ratio also.

Reply



Dave Zelenka says

June 11, 2019 at 7:58 am

Here's a Desmos plot for how proportions can be figured accurately with just a wheel, s through the process of contruction. Reminds me how organisms become so beautiful i form. They don't really know much about pi or phi, do they?

<https://www.desmos.com/calculator/5c148xm7fj>

Height of Great Pyramid of Giza 146.5m. Base length is 230.34. To produce such outsta proportions all you need is a wheel for measurement. The face angle of all four sides us simple proportion: 2 times the diameter of wheel (vertical), by 1/2 the circumference of wheel (horizontal).

Reply

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but the very detailed instructions for their beautiful forms are digitally encoded in the DNA. The instructions were there before the first "simple" process of construction.

[Reply](#)

Rajwade Sunil Chintamani says

December 23, 2013 at 3:22 am

I am doing search work on music therapy. I would like to construct a pyramid based on golden ratio. Size of the pyramid around 4 or 6 feet base. What should be height. Kindly guide me. I would like to small pyramid about 4 inch what should be height.

[Reply](#)

Gary Meisner says

December 27, 2013 at 11:01 am

Use the Golden Triangle above to make such calculations. Its base is shown as 1, so the base for a pyramid is 2. If you want a 4 foot base, you multiply the dimensions by 2. The height is then 4. The height is 2 times the square root of Phi, which is 2.544. The hypotenuse is 2.544 times Phi, which is 3.236.

Φ

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hack_nug says

January 20, 2014 at 11:37 am

Didn't they say the great pyramid had 8 sides?

Here's a link with some facts about it (number 12 is the one I mention): <http://www.ancient-code.com/25-facts-about-the-great-pyramid-of-giza/>

[Reply](#)

art c says

February 9, 2014 at 5:05 pm

Simple experimenting will show that for a rectangle with given perimeter, maximum area is obtained if it is a square, and for a triangle the maximum area is obtained if it is equilateral. For pyramid maximum volume is obtained if base is square and sides are equilateral triangles with sides same base side.

[Reply](#)

lupsaman says

February 15, 2014 at 4:49 am

[Φ](#)[ABOUT](#)[CONTRIBUTORS](#)[RESOURCES](#)[CONTACT](#)[STORE](#)[SITE MAP](#)**art says****February 16, 2014 at 10:36 am**

A rectangle of given perimeter will have maximum area if it is a square.

A triangle of given perimeter will have maximum area if it is equilateral.

A pyramid will have maximum volume if its base is a square and its sides are equilateral triangles.

This requires only simple math to arrive at.

No pi or phi needed.

[Reply](#)**Gary Meisner says****February 19, 2014 at 6:25 am**

That may be, but then the sides of the Great Pyramid are not equilateral triangles. The triangles on each side of the pyramid have a base with a relative length of 2, and the two other sides have a length of 1.618 (Phi). If they could have maximized the volume or surface area by using equilateral triangles, especially given the high cost of construction, then why didn't they do so?

[Reply](#)

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Raymond says

March 11, 2014 at 9:42 am

I've heard that the Great Pyramid is also 8 sided to signify the equinoxes. I saw a documenta that included some history, but mostly about the Pyramid its' self. In it, there was a photo of Pyramid taken from a plane a few years after the second World War, during the equinox, and clearly showed that half of each of the two of the sides facing away from the sun shadowed one half and (sort of) light up on the other, and that this can not be seen during the rest of th Do you have more information about this? I can not seem to find that documentary again.

[Reply](#)

teedub says

November 13, 2018 at 2:58 am

it totally is 8-sided – here's the vid:

Φ

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Reply



Indy says

April 19, 2014 at 1:01 pm

Think of the Pyramids as Foundations of Palaces, Human timeline of 10,000 years people!

Reply



mousa sadighi says

April 22, 2014 at 8:00 am

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Historical documents are not quiet referable.

We should not be surprised if Chinese,Egyptians,Indians,Babylonians or Persians knew about Square roots or Divine proportions as leading nations, since when a curious person starts measuring shadows as natural time peace in different times of days and seasons and make breaks for constructions and studies it's diagonal proportion he will come up with,not so miraculous.

[Reply](#)



shogun says

May 27, 2014 at 2:09 pm

The fact that the pyramid faces true north and during the spring and fall equinoxes the pyrar shows 8 sides from the sky is enough to baffle anyone with any sense of wonder. forget the the impossible feat of its construction, its mathematical and symbolic properties is enough t one to realize this is the work of something divine.

[Reply](#)



PANAGIOTIS STEFANIDES says

July 22, 2014 at 5:57 pm

COMPARE:

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Regards from Athens,

Panagiotis Stefanides

[Reply](#)



Robert Riggs says

August 25, 2014 at 12:17 pm

Can anyone help me with the ratio of base to ridge dimensions of the Cheops pyramid, please?

Thank you!

[Reply](#)



Gary Meisner says

August 25, 2014 at 8:28 pm

Those dimensions are presented on this page. The Great Pyramid of Giza is also known as the Pyramid of Khufu or the Pyramid of Cheops. See http://en.wikipedia.org/wiki/Great_pyramid_of_giza.

[Reply](#)

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ratio, i.e., base equals l , ridge equals X . I see lots of references to height, but haven't the ridge length.

Reply



Gary Meisner says

August 27, 2014 at 9:15 pm

This simplest solution is likely to use the Pythagorean theorem to calculate it:
= the square root of (base squared plus height squared.)

Reply



Bob Riggs says

August 28, 2014 at 5:49 pm

Oh, right! Thank you Gary!

I'm building a 10 foot pyramid on a four foot wall to house my astronomy and observe from. It's a fun project, and will be real cozy this winter.

Best regards...Bob

Φ

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Such a coincidence otherwise..

<https://drive.google.com/file/d/0B637hKjsUvvMVnVHdms5OVR4UTg/edit?usp=sharing>

Reply



thabiso maseko says

October 10, 2014 at 5:41 am

its intersting to see that some of the things that we just grew up knowing that they are there,actually have an origin.....

Reply



John Morgan says

October 11, 2014 at 6:22 pm

Have added a pyramid calculation using phi pi and e. Hope its interesting.. let me know..

<https://drive.google.com/file/d/0B637hKjsUvvMaDZKXzNMRTUzbGs/view?usp=sharing>

Thanks.

Reply

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orthogonal transform in mathematics, see my ppt 😊 <http://www.slideshare.net/jasonli188/great-pyramid-of-giza-and-golden-section-transform-preview>

[Reply](#)

Ashraf says

October 20, 2014 at 6:08 am

The actual dimension of great pyramid Giza is in Holy Quran. The verse 28:38 is the main verse regarding pyramid. The verse is in sura 28, verse no 38, total word 27, letters 103 and gemat value is 6157. Add the nos. 28+38+27+103=196. Now $6157 = 3.14 \times 280.11 \times 7$. Here 280 is the height of great pyramid in royal cubits. Again please divide 6157 by 7 it becomes 879.57 which is the length of the base of pyramid. If 6157 is divided by 196, it becomes 31.4132..... which is 10×3.14 . Please compare this value from international survey.

[Reply](#)

Arthur says

November 11, 2014 at 11:14 am

The angle of slope 51.8272923730° is $\arccos(\phi) \rightarrow \cos(51.8272923730) = \phi = \sin(51.8272923730)^2$.

according to <http://milan.milanovic.org/math/english/golden/golden3.html>

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In your example (pdf) :

Perimeter as a square = 4×2

Perimeter as circle = $2 \times \pi \times \sqrt{\Phi}$

Means $\pi = 4 / \sqrt{\Phi} =$

3.14460551102969314427823434337183571809248823135089295065960788040472819

In Figu forum for example you can find the same result <http://forum.figu.org/us/messages/863/8884.html?1205193138#POST31322>

Giza Height : 152.9553357

Elements in the universe * Giza Height * 7 = Speed of light

$280 \times 152.9553357 \times 7 = 299792.457972$

http://www.futureofmankind.co.uk/Billy_Meier/Contact_Report_127

As Jain said there is a fight between the west and the east about Pi.

<http://www.jainmathemagics.com/page/10/default.asp>

here is an interesting article about "The Mathematics of the Great Pyramid:"

<http://greatpyramidmath.weebly.com/25.html>

Reply



Gary Meisner says

November 13, 2014 at 9:02 am

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Arthur says

May 3, 2015 at 9:54 am

There are 2 claims about phi and pi in the pyramid.

1 – “The perimeter of the base of the Great Pyramid equals the circumference of a circle whose radius equal to the height of the pyramid.”

So : $4 * 2 = 2 * \pi * \sqrt{\phi} \rightarrow \pi = 4 / \sqrt{\phi} \rightarrow 3.144\ 605\ 511 \dots$

2 – “The area of that same circle, with radius equal to the pyramid height equals the area of a rectangle whose length is twice the pyramid height ($\sqrt{\phi}$) and whose width is the width (2) of the pyramid.”

Area of rectangle = $2 * \sqrt{\phi} * 2 = 5.088$

Area of circle of radius $\sqrt{\phi}$ = $\pi * r^2 = 5.088$

So : $\pi * r^2 = 2 * \sqrt{\phi} * 2 \rightarrow \pi = 4 * \sqrt{\phi} / \phi = 3.144\ 605\ 511 \dots$

Which means if (i repeat IF) those 2 claims are right pi is not 3.14159 but $4 / \sqrt{\phi}$ 3.144 605 511

<https://www.dartmouth.edu/~matc/math5.geometry/unit2/unit2.html>

Reply

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are wrong?

Yes.

You can let a comment after this demonstration that $\pi = 4/\sqrt{\phi}$ here

<http://www.veteranstoday.com/2015/02/05/pi/>

"Please pass this article along and help us challenge the academics to accept the correct value of π "

Or prove the demonstration is wrong.



Arthur says

April 7, 2019 at 3:01 pm

Here is Pi Tape Measurement Hardwood : <https://www.youtube.com/watch?v=DSAK6XcdVul> and the result is 3.144... -> $4 / \sqrt{\phi}$.

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before i graduate college i was 19 when i first started now i'm 21 and studying mathematics by myself...I had created a consciousness book related towards my experience and now that this site I was SHOCKED! about my findings that this Pyramid of Giza is created upon a mathematical perfection!...Upon my discovery that the Giza has never been finished on its top portion and I had the answer already and this 51 degrees related also towards my findings is accurate and related towards everything beyond the cosmos...Wew this is Epic!!!

[Reply](#)

Isaac W. Ofosu says

December 13, 2014 at 11:06 pm

I think the great pyramid and the sphinx as well as the other artefact dotted around the world as the one in Peru and Easter Islands were built by an advanced civilization who once inhabited the earth. The Egyptians I think, discovered the pyramid. They did not know who built it. That they don't have any records.

[Reply](#)

vikhnesh says

January 14, 2015 at 11:18 pm

i find it very interesting but my doubt is that how is it related astronomically.



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Benjamin says

March 1, 2015 at 3:08 pm

Hello everyone! 😊

I made a video about the Great Pyramid, the number Pi and Phi...

The link : <http://www.youtube.com/watch?v=dp31oVdlfek>

Goodbye! 😊

Reply



ak says

July 3, 2015 at 3:11 pm

The 'pi-theory' is supported by people who argue that the Earth's radius divided by 432 gives pyramid height (ignoring some zeros). They claim further that 432 is a very "significant number". One can agree that, as it is the double of 216, it has some interesting properties but that is another story, probably.

Reply



Annd says

July 29, 2015 at 12:58 pm

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MJ says

September 22, 2015 at 9:15 pm

this is super cool man you know what's better nothing it is fully sick ya

[Reply](#)

MJ FAN says

September 22, 2015 at 9:17 pm

OMG everyone its MJ holy moly SICK

[Reply](#)

Jesus says

February 3, 2016 at 1:19 am

A triangle with 2 equal heights and minimum perimeter gives two equal angles whose cosine

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the secret chambers, perhaps in the orthocenter there is some yet undiscovered.

<http://triancal.esy.es/HTML/GG.html?C=0.90455689430235&B=0.90455689430235&a=439.9999999999>

Reply



kaya-lah says

March 14, 2016 at 12:34 pm

comment point everything to say the people of the Afrikan Continent did NOT reach such heights..very sad...esp when headed up the great Hapi, u basically find the evolution of pyran architecture with Giza being the culmination...gasp, cant be...they're BLACK...smfh aliens only because of all the evidence on tv...

Reply

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have anything to do with race. Without specific evidence it would be wrong to assume s
feat of their construction is just beyond what we know any humans to have had at that
in history, and is unexplained today. Race has nothing to do with it.

[Reply](#)

Richard says

June 19, 2016 at 4:49 pm

Hi everyone,

What a great debate. I might be jumping in a bit too late, but I was looking for some advise.

I wanted to create a pyramid using the golden ratio number only.

Would be something small, from 10 to 20 or 30cm height, but I wanted to be constructed us
the golden ratio numbers.

I need your help to make it as accurate as possible using this method.

I wanted to be perfect all the way, from the angles to the smallest detail.

Can anyone please help me around, providing me the exact measures to be used, in a simpli
way, so I can pass it on to the fabric?

Thank you.

[Reply](#)

Gary B Meisner says

June 20, 2016 at 1:31 am

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Hypotenuse – Phi (1.61803398874...)

If you want a height of 30 cm, just divide that by 1.27201964951 to get the base of 23.5 and multiply it by 1.27201964951 to get the hypotenuse of 38.1601 cm. Use the template <https://www.goldennumber.net/wp-content/uploads/2012/08/great-pyramid-golden-triangle-template.pdf> to create a pattern that will fold to create the pyramid.

Reply



Richard says

June 21, 2016 at 9:15 pm

Thank you Gary.

Reply



antonio says

July 16, 2016 at 9:36 pm

What kind of beauty hidden dimensions impossible to see if you don't know "The secret letter of the ancient builders. Pharaohs were putting their names in the dimensions of the pyramid and thus were given the development of immortality. Nobody can delete the "names" of dimensions. One of the reasons why there is no text in the Pyramid, the texts are put in the dimensions.

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Andras Goczey says

July 17, 2016 at 6:57 am

first, : "Khufu pyramid size" on youtube

I have been working on Egypt and Giza for the past 8-9 years. Based on my research I have concluded some new and interesting facts that will make the real purpose of the existence c pyramids clear.

This week I have put a film about Giza, and the time of Giza on youtube in English. I believe it should be interesting for You.

<https://www.youtube.com/watch?v=FmHFBgfl7G0>

I would greatly appreciate if you would take time to watch the 40 minute long film and perch reflect on it.

the others:

Khufu's calendar on youtube

Giza the time machine-World Mysteries Blog on youtube

Sincerely András Gőczy Architect from Hungary

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I cannot find your video.

What I am seeing here is the Bible code.

I think if you want to know how the pyramids where built and have greater then math 85 you should consider yourself unqualified. The reason the sides of the pyramid line up with north star is, at night someone stood at the center of the base and with a plum line marked the center of the north face, ran a string line from that point to the center plum line and same distance to the center of the south face. Then took the same distances at 90 degrees for the center of the east and west walls. Now with the Great Pyramid there is no Pythagorean theorem used to find the corners (3, 4, 5). For every two units of measure to each face center use 3 to each corner. Now if you do this for each layer as you go up you stay true. All you have to do is keep your center point.

I have worked in the stone business for 20 years. It is my understanding that the reason the Golden Ratio shows up so often is it just looks right to the eye. I try to incorporate it in my creations, not because of some cosmetic connectivity but because it draws the eye for a bit longer.

Now the building blocks of the Great Pyramid are laid with different thicknesses to the courses because each ledge of stone is different as it sits in the ground. What I put to you with the casing stones what height at 51_52 degrees need to be to maintain the same unit of measure so the 2 to edges and 3 to corners without changing the unit of measurement.

The key to the Great Pyramid is they used the K. I. S. S. Principal.

Reply

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impossible with ancient or modern standards. Are you saying that you can do this?
have the technical capability to do that?

Reply



Leon says

September 21, 2016 at 1:43 pm

All this about the EXTERIOR of the GP and the layout of the plateau. Please look at some of the INTERIOR dimensions, mainly the Kings Chamber which also is built to a 'rule'.

Newton was concerned with GP measures to try to help him straighten out the true shape of globe and also a unit of measure.

And ONE other exterior point. The Apothem of the GP is about 185meters. This is an exactly fraction of a minute of arc AT THE PYRAMID.

Reply



SsJK says

September 27, 2016 at 5:06 pm

I read half of the comments here and i have an interesting question for you guys.

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knowledge and only the ones with power got educated and kept for themselves for centuries city of Iskandaroon the library which held all the records was burned .. well someone till now these secrets and as we all know nthng has changed from ancient times till now .. and that's human nature with his good and evil intentions...

Im just asking it is impossible for one super genius geek to do this work... a system a unit w well taught and organized could accomplish this kind of achievement so maybe we are looking from the wrong angle and not asking the right questions?

Looking at the pyramid and examining it ..we see that it is almost perfectly build with minor errors of mathematically calculations and alignments with earth and sky... so?? Earth and sky ... earth and up to the sky pointing towards the sky stars and they are the thombs for the pharaohs. Hmm why they want to go up? Preserve their bodies? Magnetic field ... and earth is ringing like a bell .. i think they knew moore about pretty much of everything than what we know and learn today ...

Reply



Jenny says

October 15, 2016 at 1:21 pm

Delamer Duverus writes that the Pyramids were part of the Tower of Babel and were covered with glass of red, yellow and blue, the Pyramid at Giza being blue, and 2/3 were destroyed and which possibly made the Sahara as that was once the fertile plains of Mamre. The sphinx was carved out of the center structure which base looked like the Star of David and which came to a point. The pyramids would absorb the three colors of light, and reflect the cosmic sheath or energy which contained the 3 light rays towards the center structure, which would then direct it into outer space. This was a destructive energy.

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Abel was also through similar structure, and Abel is asteroid belt between Mars and Jupiter.

He suggests that Man came to Earth to entermingle with those building the tower, because i
a weapon to be used against Man, and Man confused their tongue so it could not be comple
and then Man destroyed 2/3 of it.

The mathematics He says is all about squaring the circle, knowledge we do not have ourselv
but available in sextoid mathematics, which He won't give us until we have learned to live in j
Doubt that will happen with our insane government.

Reply



Edward Wick says

November 9, 2016 at 8:13 pm

I'm sorry, a square, some string, a plumb bob, a level and something to mark cubits. The
you need is an unobstructed view of the north star, which in not to difficult in a desert.

Not easy in a small scale, but as long as you can project the angle on the four sides (wit
string/cord) I don't see the problem with labor that just worked on the bent and red pyra

I ask you. What is the hard part?

Reply



Paul says

December 4, 2016 at 12:29 pm

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Gary B Meisner says

December 4, 2016 at 5:05 pm

That just changes the question. Who did they copy them from and where did t
people get their technological insights?

[Reply](#)

William Avery Sunny Hise says

March 24, 2017 at 1:24 pm

Four couriers on the bottom plus one at the top = 5 corners. And the square root of 5 =
2.2360679775, .+ 1 = 3.2360679775 divided by 2 = 1.61803398875 = Phi.!

[Reply](#)

Jordan Maestri says

April 6, 2017 at 2:35 am

Maybe the builders purposely left the ancient and universal secret mathematical knowledge

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Building the pyramid accomplishes the goal of preserving and explaining the knowledge of the math by means of the structure.

This could help explain why there are no writings pertaining to the secret mason building,

Therefore, the great pyramid is an organic diagram that if understood, is a textbook for the use of Phi & Pi.

The balance and design of the universe is beyond complex reason and human understanding.

The Great Pyramid in all of its timeless wonder is a footstool to the Heavens.

Reply



Howard Donaldson says

April 10, 2017 at 9:20 pm

Using feet or meters is a fool's effort. The ancients didn't use those measurements so there's no reason that we should. It only makes sense that they would have laid out the dimensions in very easily measurable units.

The basic unit used was the cubit. There are several existing relic cubit sticks which average 18 inches in length. Each stick was divided into 20 sections of fingers, palms, hands, fists, etc. These 20 divisions allowed 85 different angles to be accurately laid out.

We can see using conversions that the base of the pyramid was laid out as a square with sides of 440 cubits. The slope of each side was measured at a ratio of 14:11 which is an angle of 51.34 degrees.

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The base length of 440 cubits is 759 feet ($440 \times 20.7 / 12$)

The total height of 280 cubits is 483 feet ($280 \times 20.7 / 12$)

Missing stone at the base, the missing casing stones and the missing 20 feet or so at the top make it nearly impossible to make accurate measurements now but, as mentioned, the Egyptians almost certainly used whole number measurements in cubits.

One other whole number relationship is the angle to vertical of the corners. The ratio (height half the base diameter of 622.25, or 311.125) equals .9000. This ratio, 9:10 gives a corner slope of 41.9859 degrees, which is as actually measured.

Reply



Navaid Syed says

May 7, 2017 at 7:57 pm

Arguing on the dimensions does not get us anywhere. The wonder is that the pyramids are found all around the world across all the cultures. These are mostly made of accurately carved, large stones. Over thousands of years, these monuments have proven to be cataclysm (weather, earthquakes, floods, atmospheric effects, etc.) proof. This is the real wonder and the question who taught this to the people, supposedly living in caves (why would they even live in caves, can build things like this) and the only tools they possessed were copper chisels and hammers and stone knives (copper and stone tools cannot cut granite which is extensively used in making the ancient buildings)? Why do we believe everything that Plato said except his description of Atlantis? Why do we believe in certain accounts of history and not the others? What makes us

[Φ](#)[ABOUT](#)[CONTRIBUTORS](#)[RESOURCES](#)[CONTACT](#)[STORE](#)[SITE MAP](#)**SAMUEL LABOY** says

July 17, 2017 at 1:21 am

A mainstream Egyptology scholar recently stated that pyramid's mysteries can only be solve Egyptologists, not by engineers. That is not correct he most know that engineers create, des and built the pyramids. Egyptologists came after millions of years to study and evaluate the culture that built the pyramids. Besides, it is known that Egyptologists can read papyrus, but engineers can read designs and structures of buildings. Egyptologists never have found, or r designed the great pyramid's construction plans. What they have done is to create its "as bui plan", based on actual measures of the structure. To design the structure means to establish specifications, geometric requirements, and the materials dimensions and strengths require supporting the buildings. As known, these are tasks which the Egyptologists are not prepare do.

It is known that the great pyramid was designed and built about 4,500 years ago by an Egypt culture, named the pyramid builders. Since those times, its construction plans have never be found or re-designed by any Egyptologists or scholar. From another point, and as something important, and incredible, a Puerto Rican professional civil engineer, Samuel Laboy, presents world the entire geometric plan of this great monument, as designed and built by the Egyptia engineers. To solve this mystery, he conceived and designed an architectural geometrical template, which he found was used by the Egyptian designers.

Engineer Laboy, copyrighted his template in USA and Puerto Rico, as the perfect symbol, composed of the figure of a circle, a triangle and a square in a special geometric arrangement which permits special properties for general designs. He used it to design the entire pyramid including the original entrance, descending passages, the antechamber, the king's chamber : five ceilings, the queen's chamber, the grand gallery, corridors, the subterranean chamber, etc Engineer Laboy originally developed, without making reference to the great pyramid's dimens

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dimensions were dictated by geometry and not defined by the Egyptian builders. Only one number is required for the radius of the circle, therefore, only one number will generate all dimensions of the great pyramid, and it has to be the correct one. Other numbers will change the dimensions of the pyramid's structure.

Surprisingly, the product of 153 ft. Multiplied by ($\pi = 3.14159$) = 480.6637 ft. Is the correct radius which corresponds to the pyramid's height. After a comprehensive and detailed comparison, the designed plan of engineer Laboy proved that it corresponds, section by section, to the entire pyramid's structure dimensions, characteristics, and properties. His geometric designed original plan is available at amazon (24 x 36 inches).

In addition, engineer Laboy also designed the geometry of the pyramids of Chephren, Micerin, the Red, the Bent pyramid and others. The results of his designs were exactly equal in dimensions, characteristics and properties as the built structures. Engineer Laboy is the author of "A Civil Engineer looks at the Great Pyramid (390 pages) and a supplement book of 160 pages, additionally he presents a DVD video of 3 hours and discusses his entire design work.

Reply



samuel laboy says

July 17, 2017 at 2:47 am

Sorry sir, this is not span, a theory or an idea. This is something real. I understand this is incredible but this is the end of your trail of tears to find the original design plan. This are my results of a virtual thesis in Oklahoma State University started in 1970 and ended in 2010. the books and the designed geometric plan exactly matched every exterior and interior dimension of the structure of the Great Pyramid work done without any reference to the Monument. You are doing too hasty to consider it as span. Just check my websites, check Amazon.com, see YouTube

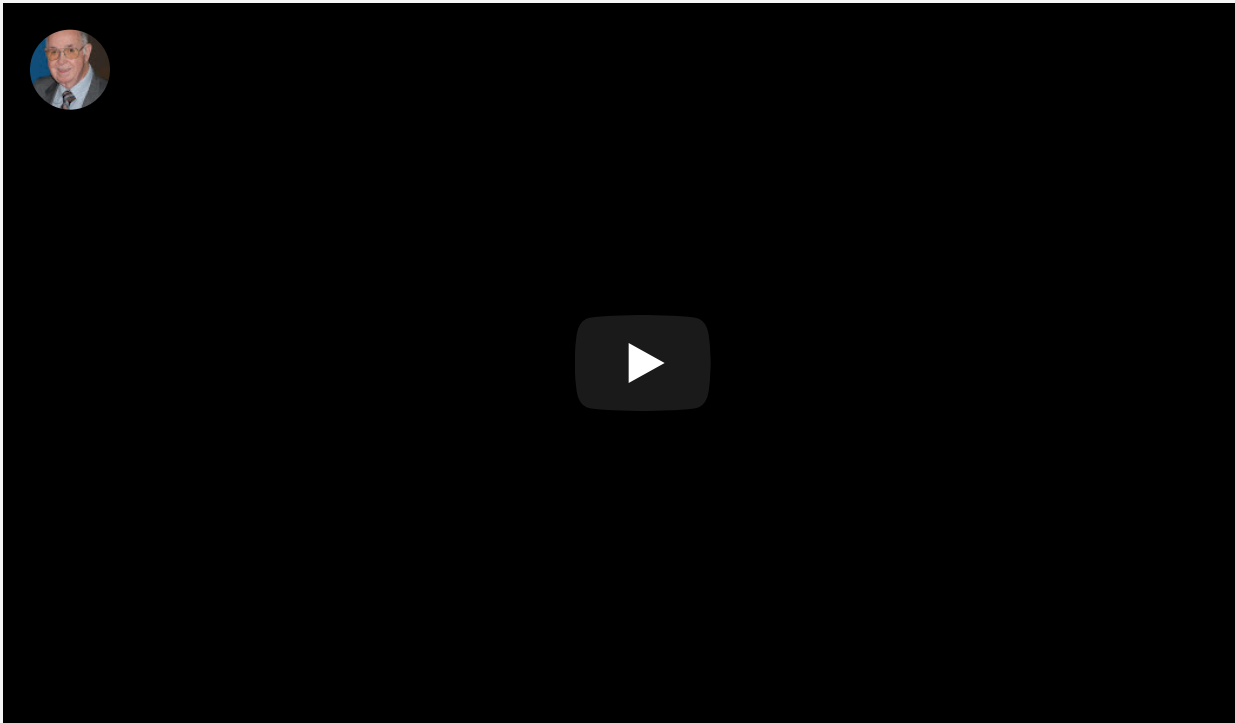
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YouTube, the comparison between my designed plan with the official measures of the great pyramid showing they are equal, the third, additional references to validate the results. I am a professional civil engineer who have dedicated 40 years to study and investigate the Egyptian pyramids, worked for many years as engineer in charge of bridges and road constructions, have patents granted by the USA Patent office and received the highest award given by the Government in 4 different occasions. I visited the 3 Giza's pyramids, including their interior for several days. You can email me at egipto153@hotmail.com where with pleasure I can answer any other question or reference.

All this information has been sent to the Egyptian authorities, but unfortunately, no answer has been back. Check THE PAGE "MINISTRY OF ANTIQUITIES"

My video "Modern Evaluation Of The Great Pyramid" – Part I – YouTube, and Part II, and III



Reply

Φ

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Samuel Laboy – Mathematical patterns of the Great Pyramid: A civil ...

<https://eduardopiperet.wordpress.com/2014/03/01/samuel-laboy-mathematical-patterns-great-pyramid-a-civil-engineer-looks-at-the-great-pyramid-of-giza/>

Mar 1, 2014 ... For many years, we have heard and read about the Great Pyramid of Egypt ... created in any part of the world, with no reference to the pyramids. Video: Modern Evaluation of the Great Pyramid (2 hours 20 minutes).

Reply



SAMUEL LABOY says

July 20, 2017 at 8:44 pm

MATHEMATICAL PATTERNS OF THE GREAT PYRAMID – eduardopiperet.wordpress.com

Samuel Laboy – Mathematical patterns of the Great Pyramid: A civil ...

<https://eduardopiperet.wordpress.com/2014/03/01/samuel-laboy-mathematical-patterns-great-pyramid-a-civil-engineer-looks-at-the-great-pyramid-of-giza/>

Mar 1, 2014 ... For many years, we have heard and read about the Great Pyramid of Egypt ... created in any part of the world, with no reference to the pyramids. Video: Modern Evaluation of the Great Pyramid (2 hours 20 minutes).

Reply



Marti says

September 19, 2017 at 7:25 am

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Rinja says

January 29, 2018 at 7:30 pm

I agree hold heartedly . The mystery schools of kemit alps taught electromagnetisr

[Reply](#)

Jennifer Hathaway says

May 2, 2018 at 10:09 am

Because the antique books on “Euclid’s” geometry, which cite “Pythagorus” theorer candidly state [in the appendix], that even though Pythagorus’ theorem goes back t couple thousand years before Pythagorus [most anciently in China] only the Greeks Europeans] merit mention. In short, it’s predicated on Victorian English racism. [Fro appendices of Euclid’s Elements]

[Reply](#)

abdelrahman says

May 26, 2018 at 9:28 am

Φ

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SAMUEL LABOY says

July 20, 2017 at 8:56 pm

READ MINISTRY OF ANTIQUITIES -SAMUEL LABOY

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<https://www.facebook.com/Ministry-of-Antiquities-336764893195328/>

THE DOCUMENTS PRESENTED BY SAMUEL LABOY IN RELATION TO THE Barcelona lege
Carles Puyol visits the Grand Egyptian Museum and Giza ...

Reply



SAMUEL LABOY says

July 20, 2017 at 9:05 pm

SEE MY NEW DISCOVERIES ABOUT LEONARDO'S DRAWING

DAVINCI – YouTube

<https://www.youtube.com/watch?v=P6KrJCz0Zaw>

May 6, 2012 ... SEE MY NEW DISCOVERIES ABOUT LEONARDO'S DRAWING: THE FIGURE ...
Samuel Laboy oh about the vitruvian man.. i used the leonardo's ...

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SEE MY NEW DISCOVERIES ABOUT LEONARDO'S DRAWING

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May 6, 2012 ... SEE MY NEW DISCOVERIES ABOUT LEONARDO'S DRAWING: THE FIGURE OF THE VITRUVIAN MAN
 Samuel Laboy oh about the vitruvian man.. i used the leonardo's ...

Reply



Puddin'head says

August 18, 2017 at 11:19 am

Er...

Looking at the picture of the folded circle:

It seems to me that all you need is to determine the height that you want your pyramid to be the thing builds itself.

1. Determine your desired height.
2. Cut a piece of string to that height.
3. Tie the string to a stick planted in the sand at the center of your future pyramid.
4. Walk the circle dictated by the string which will serve as its circumference.
5. Draw a square which touches your circle at 8 symmetrically distributed points as indicated

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the **interesting** geometrical attributes of the pyramid are the **necessary** geometrical attrit of a golden pyramid, which comes about almost unavoidably once you determine how tall yc want it to be. All of the imagined complexity is only inferred after the fact, the method seems painfully simple.

Reply



Gary B Meisner says

August 18, 2017 at 11:55 am

Take a look again at your step 5, which says "Draw a square which touches your circle a symmetrically distributed points as indicated in the picture above." Therein lies the chall You could come up with a variety of sets of "8 symmetrically distributed points." Only or will produce a pyramid with the proportional characteristics of the Great Pyramid, so yo need to have an exact plan for the position of those eight points BEFORE you can do an else in your approach.

Reply



Puddin'head says

August 18, 2017 at 5:50 pm

Ah, missed a step. However, the golden ratio is not all that remarkable a relationshi you play around with geometry long enough, you are going to stumble upon it. Give arbitrary height or base, calculating the other is a trivial matter.

The method of tracing out the circle with the same radius as the height just simplif

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I guess I'm just missing what is so remarkable about the planning of any of this.

Reply



Gary B Meisner says

August 22, 2017 at 1:14 pm

I guess you're just not seeing the golden ratio as others do. Kepler called it one of the two jewels of geometry, yet you see it is unremarkable. I would say that the fact that it can be derived from so many geometric constructions, limits and series DOES make it remarkable. In addition to that it appears in an amazing number of surprising places in nature. What other number do you know that has that quality?

Reply



Puddin'head says

August 19, 2017 at 4:51 pm

Here's another approach that gets you in the same vicinity without needing to know anything about phi or pi.

Start off drawing a square with an edge length of 230.4 meters. Use an edge of this square as the hypotenuse of an isosceles triangle with its apex at the center of the

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Given that we are using an assumed height from Wikipedia, and the distances quoted are rounded to half-meters, it seems more reasonable to assume that the Egyptians simply knocked 10% off of a number determined by their base edge length than it is to assume that they employed any geometric constants. In either case, we need to assume that they rounded to the nearest half-meter when they built it. The benefit to this method is that it requires no knowledge of the Pythagorean theorem nor of pi or phi.

Reply



Gary B Meisner says

August 22, 2017 at 1:19 pm

I would have loved to have been at that committee meeting. The ancient Egyptians are planning the world's largest structure to entomb their Pharaoh for his journey into the afterlife. They're aligning it to many important celestial markers. The Pharaoh asks "how high will my pyramid be?" The lead architect says, "Hey, how about we just knock 10% off the base length? All in favor?" The Pharaoh says, "it is about time for lunch. Yeah, that sounds good enough. Motion passed."

Reply

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If the triangle were steeper it would tend to collapse outwardly (like the bent pyramid), and if triangle were shallower it would tend to collapse inwardly. So at phi its perfectly balanced an to last millions of years.

Reply



Gary B Meisner says

September 15, 2017 at 12:46 pm

That's a very interesting theory. I'd like to see if any of the engineers in the audience can it to be true with some sort of structural engineering analysis. Any takers?

Reply



aishen says

October 20, 2017 at 5:27 am

I am in a research for more than 60 years, about who discovered or created 360° ?
Because I have come to investigate taiji, pyramids and quadratura. Lights is part of it, light is speed but an angular pulsation, which today can be calculated with pythagorean theorem.

As I noticed in keops situation as it has been suggested : $\text{latitude} = \text{omega (celerity} = c) \sqrt{x \text{ epsilon}} = 29.9792458$, but if you look at the longitude N 31.4159265 (which is my équation

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Gary B Meisner says

October 24, 2017 at 8:11 am

You can thank the Sumerians and perhaps other ancients for our 360 degree circle. Her some more information:

<http://www.storyofmathematics.com/sumerian.html>

<https://usatoday30.usatoday.com/news/science/wonderquest/2002-06-21-circle.htm>

[Reply](#)

Coccus says

May 18, 2018 at 6:53 pm

I'm not shure of what aishen means but....

Longitude (E-W) reference point in Greenwich London England was established in the 1 and can not have any meaning to the builders of Cheops.

[Reply](#)

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their base 60 numerology. I believe it was based on number of days in the year rounded down to 360. That number was attached to the circle. When the radius of a circle is used as a chord of the circumference,

SIX EQUILATERAL TRIANGLES magically appear and even more remarkable each corner of each triangle is

60 degrees. Base sixty is still being used today; sixty seconds in a minute, sixty minutes in an hour, six times sixty in a circle. Sixty and its permutations are a magic number derived from the heavens. When you align four equilateral triangles on a square base, something magical happens. The internal angles form automatically without knowledge of PHI, PI, THE GOLDEN TRIANGLE or any linear measurements. A further item of magic: 3 4 5 triangle is inside which provides the quarrymen with a perfect tool to shape the slope of the sides. The KISS principle should be applied (Keep it simple — S stupid).

As an aside, natural diamond crystals present as twinned pyramids (OCTAHEDRON) without knowledge of any of the above or anything else for that matter.

In essence, pyramids form naturally according to the laws of nature absent the folly of man.

Reply

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The area of each triangular side is the base x height / 2, or $2 \times \sqrt{\Phi}/2$ or $\sqrt{\Phi}$. The surface area of the pyramid with base is 2×2 , or 4. So four sides is $4 \times \sqrt{\Phi} / 4$, or $\sqrt{\Phi}$ for the ratio of sides to base.

[Reply](#)

Jeanne Gilden says

February 25, 2018 at 4:17 pm

They say twice a year at Spring and Fall you can see the Golden triangles in the great pyramid. Making it eight sided if you are flying above it at that time. Although I had 2 years of math in school it's all Greek to me now at 88. I have been studying Astrology in relationship to the Holy Bible and I have found out if you take all the Astrology out you would have to toss the Holy Bible away, since it says that Astrology is evil, really not good. In Revelations it says if you wise enough you could figure out the meaning of the number 666. 60 was the base number at that time and is used today 6 times 60 = 360 diameter of a circle and 6 times 360 = 2160 is our north pole draw imaginary circle which 2160 years for the end of an age. Well, Revelations transposed the number/. Then at the end Jesus said he was the bright and morning star (That's our SUN you know) Of course God or Jesus didn't say a word in the bible (They said they said).....Oh, I continue on forever but I going to stop here.....

[Reply](#)

Nelson says

April 26, 2018 at 2:23 am

[Φ](#)[ABOUT](#)[CONTRIBUTORS](#)[RESOURCES](#)[CONTACT](#)[STORE](#)[SITE MAP](#)**Dave Thomas** says

April 10, 2018 at 4:34 am

Sorry, but the math presented on this page is WRONG. If the base of the pyramid is 230.4 m then the "Phi to scale" figure for the height should be $230.4/1.6180339887498948482045868343656\dots = 142.395\dots$, where $\Phi = 1.6180339887498948482045868343656\dots = (1 + \sqrt{5})/2$.

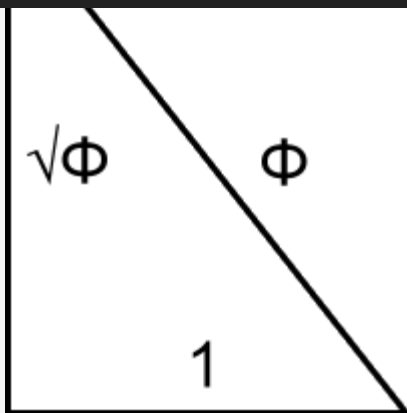
Actual height – scaled height = $146.5 - 142.4 = 4.1$ meters, That is 100 TIMES LARGER than amazing figure of about 3 cm you cited.

Your arithmetic is wrong. End of this claim.

Reply**Gary B Meisner** says

April 15, 2018 at 1:48 pm

Hi Dave. Thanks for taking a critical look at the page. I see you're from the New Mexican Science and Reason, whose goal is promoting science, the scientific method, rational thinking, and critical examination of dubious or extraordinary claims. That's a noble cause you need to make sure you understand the claims being made before being so hasty to summarily dismiss them.

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When the base of the pyramid is 230.4 meters, it's the half base of 115.2 meters that corresponds to the length of 1 on this triangle. The height is then 115.2 meters times the square root of Phi (1.272019649514070) for a total theoretical height of 146.5366636. This varies from the Great Pyramid's original height of 146.5 meters by 0.03666 meters, a difference of 1.443 inches, or 0.025%, as is correctly stated in the article.

Reply



Dave Thomas says

April 17, 2018 at 10:54 am

I'm sorry, but the square root of Phi is NOT a "Golden Ratio." $\Phi^2 = \Phi + 1$, $1/\Phi = \Phi - 1$, but $\sqrt{\Phi}$ is not anything special.

The Parthenon has a Golden Ratio (1.618...), but not the Pyramids.

All you have done is to find some tenuous connection between Phi and the pyramid. The new "Golden Ratio" of 1.272... is not Golden, it has none of the special properties of Phi. You can't make a Golden Spiral using 1.272...,

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Gary B Meisner says

April 17, 2018 at 5:44 pm

Geez, Dave. The triangle has three sides. The other two of them – the hypotenuse with a length of 1.618 and the base with a length of one – also correspond to proportions of the Great Pyramid to within 0.025%.

People commonly refer to triangles by the dimensions of their height and base rather than their hypotenuse and base, but it's all part of the SAME triangle and SAME proportional relationships.

The ratio of the hypotenuse of the Great Pyramid to its half base is the Golden Phi, 1.618. It's not "tenuous." It's exact to within 0.025%.

It's a very elegant geometry that captures the unique relationship of "1 + Phi = squared" in the "a squared + b squared = c squared" relationship of a Pythagorean right triangle. The sides of that triangle are 1, square root of Phi and Phi.

Reply

Dave Thomas says

April 18, 2018 at 2:01 am

Geez, Gary, A hypotenuse is simply not the same as a side. The Golden Rectangle also called the Golden Rectangle, or the Golden Section. for a reason.

<http://www2.rgu.ac.uk/subj/ats/TeachingWeb/teaching/t26-DesignPrin/TheGoldenSection/Parthenon.jpg>

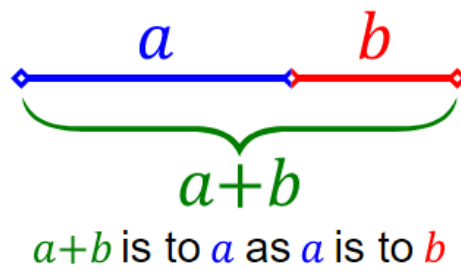
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Gary B Meisner says

April 18, 2018 at 6:04 pm

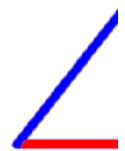
No, the Golden Ratio is not also called the Golden Rectangle. The Golden Ratio is defined by a LINE divided at the one unique point that results in the ratio of the whole line to the larger segment being the same as the ratio of the larger segment to the smaller segment. The ratio of the larger line to the smaller segment is the Golden Ratio. You can then use those two LINE segments to create a RECTANGLE, which is called a GOLDEN RECTANGLE. You can also use those two segments to create a right TRIANGLE, which is called a GOLDEN TRIANGLE or Kepler Triangle. (Note that other Golden Triangles can be made with a base of 1 and two sides of Phi or a base of Phi and two sides of 1.)



Line segments in the Golden Ratio



Golden Rectangle

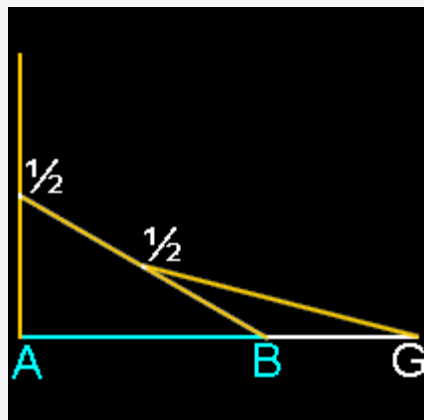


Gold
Trian

Johannes Kepler wrote of the unique qualities of this Golden Triangle, which is why it is named after him. Nothing “ad hoc” about it. It’s just as legitimate a geometric construction as the Golden Rectangle. If the Egyptians did not know how to build this pyramid, they somehow stumbled upon some other geometric construction that produced a Golden Triangle with a very high degree of precision. Your

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sticks of equal size and you can create a golden ratio. No knowledge of irrational numbers is required:



The TRUTH is that no one knows what geometry was used to construct the Great Pyramid. We just have the evidence of its physical dimensions and study known methods of pyramid construction to come to reasonable conclusions.



Daniel K Statnekov says

May 24, 2019 at 12:00 pm

In addition to your obvious contributions, Gary, you are indeed a patient reader. Perhaps skipping ahead to the very obvious reference to Phi found in the interior of the GP would be helpful. The distance from the entry into the so-called "Queen's Chamber" to the center of the stepped niche on the east wall of that chamber is exactly 6.18 cubits while the length of the wall itself is ex-

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confirm your point.



Gary B Meisner says

May 25, 2019 at 4:04 pm

Thanks, Daniel, for the added information. Very helpful!



Liddz says

September 19, 2019 at 3:41 am

Yes you can use the square root of the golden ratio to create a spiral:

Constructing a whirling of multiple square root of the Golden ratio =
1.272019649514069 rectangles:

A square root of Phi = 1.272019649514069 rectangle can be constructed from
= cosine (36) multiplied by 2 = 1.618033988749895 rectangle if the longer edge
the Phi = cosine (36) multiplied by 2 = 1.618033988749895 rectangle is swung
an arc towards the other longer edge of the Phi rectangle thus the longer edge
the Phi rectangle becomes the diagonal of a Square root of Phi rectangle and
hypotenuse of a Kepler right triangle.

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Square root of Phi rectangles.

This division of the square root of Phi = 1.272019649514069 rectangle divided into smaller Square root of Phi rectangles can be repeated ad infinitum (fractal) if the edges of the square root of Phi = 1.272019649514069 rectangle are enlarged by the square root of Phi = 1.272019649514069 ratio. Every division of the square root of Phi rectangle is a smaller square root of Phi rectangle and is rotated 90 degrees.

A Square root of Phi rectangle is also related to Ammann chair pattern tilings. Diagonal division of a Square root of Phi = 1.272019649514069 rectangle makes a Kepler right triangle of which the edges are in geometrical progression, 1: square root of Phi = 1.272019649514069: Phi = cosine (36) multiplied by 2 = 1.618033988749895.

Reply



AHUA AROHA says

July 31, 2018 at 12:56 pm

The Great Pyramid of Giza is a fact that our recorded history has been altered in that Eratosthenes was either one of three conclusions in being the first to accurately measure the circumference of the Earth. 1. He was the creator of the Pyramid of Giza, which would place him back further in

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upon the Earth, in which the other point of reference is 'Jacobs' well of the jawbone in Israel should I say 'Eratosthenes' well ? 3 He has stolen the Great Pyramids builders method , measurements etc...through his authority position of the Great library , erasing the true identity of the builder, for the purpose of maintaining the trinity tree of power for the elite pyramid money deceivers, that are the secret one world order biblical prophecy keepers of his mentor ' Plato

[Reply](#)

David Oneil says

October 23, 2018 at 11:55 am

Unless of course, like us, the Egyptians merely discovered the pyramids at giza, Not created, like us, studied and tried Learn from them , hence the step pyramid at Sacqara, which is basic multilevel mastaba. If you were an advanced citizen utilization of humans, and you wanted to store a wealth of information that would survive for 5000- 10,000 years, with no maintenance from future humans, and you wanted to make sure it was found and studied to reveal the hidden information within its construction. A great stone pyramid sure would be one an ideal way of doing it!

[Reply](#)

MC Numbers says

March 9, 2019 at 10:06 am

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Nubian line from their Egyptian neighbors given their love/hate relationship over time.

Reply

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genius of the Nile Valley Civilizations. smh...one can easily see the evolution of Afrakan pyrar tech as you venture down north to the delta cataract by cataract.. not going to say people in are racist, but please do better..

Reply



Godsmathguy says

May 25, 2019 at 10:46 pm

Thank you! Not once are the Pyramids of Sudan (ancient Nubia) mentioned. These pyra were also constructed in Golden Ratio although the slant height was different than that Egyptian pyramids...they were purposely different at Piye's request and later under Taha yes, the ancient Egyptians, Nubians, and Chinese understood the Golden Ratio and incorporated it into their architecture for beauty, faith, and symmetry.

Reply



John M Queripel says

April 27, 2019 at 9:05 am

This an interesting article, many others have also discussed the dimensions of the structure similar way. There is a fact that I think is overlooked often when trying to reconcile the struct itself with the Egyptological account of who and when it was built. At the time the Egyptolog give for its construction the ancient Egyptians were basically a stone age society possessing

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more advanced and sophisticated than the AE.

Reply



Daniel K Statnekov says

May 24, 2019 at 12:04 pm

John, the Pyramid is probably much older than what has been determined by the academe as others have conjectured, a "legacy" passed down to human beings from an era much earlier than what we define now as our human historical era.

Reply

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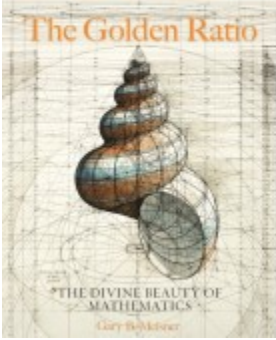
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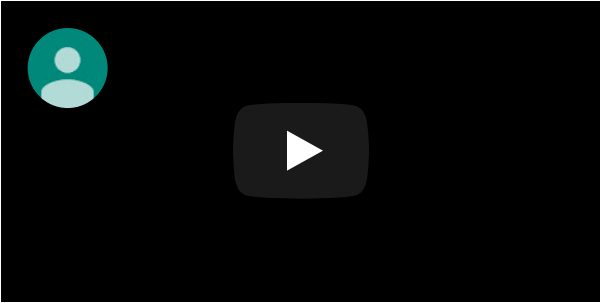
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Article on Adonis Golden Ratio

Geometry in Style and Fashion



[Sacred Geometry Jewelry](#) from [Ka Gold Jewelry](#) (and Golden spiral article)

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Golden Mean Gauge Article

RECOMMENDED BOOKS AT AMAZON

New: The Golden Ratio - The Divine Beauty of Mathematics

Phi: The Golden Ratio

Fascinating Fibonacci

Mathematics of Harmony

Divine Proportion

Sacred Geometry

Power in Numbers: The Rebel Women of Mathematics

Golden Ratio Quartz Pyramids

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A Spiritual Photo Journey of Reason and Faith

LINKS

[Phi Day](#)

[PhiMatrix Golden Ratio Design Software](#)

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PHI 1.618: THE GOLDEN NUMBER


Dedicated to sharing the best information, research and user contributions on the Golden Ratio/Mean/Section, Divine Proportion, Fibonacci Sequence and Phi, 1.618.

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