The Universal Harmonic Codes Part II: The Khufu Pyramid Royal Cubit
Khufu, Khafre, and Menkaure Giza Pyramid Dimensions Analyzed,
The Flinders Petrie Conundrum,
A 21st Century Khufu Pentagonal Pyramid in Universal Harmonic Pi and modern Phi.
{C} Vic Showell October 2009 Bellingham Washington USA
All introductory sections repeated from Part I are improved with upgraded new data. Be sure to use fractions supplied for important cosmological numbers when calculating with 10 digit hand calculators. Numbers in this work are rounded to 10 digits or exact.

Abstract for the Universal Harmonic Codes Part II: The Royal Cubit

This pdf is a complimentary addition to the Universal Harmonic Codes Part I.
The most exhaustive analysis of the basic fundamental dimensions of the Khufu, Khafre and Menkaure Giza pyramids ever attempted in world history is performed in this document and applied to the concepts of the Universal Harmonic Codes which are represented by the first 6 planets celestial movements in those **pyramid dimensions**.
This refined and perfected analysis of the ancient cultural calendar count systems applied to the first 6 planets sidereal {solar orbits}, and the planetary synods is represented by **Egyptian Ancient Pi**, and **Mayan Long Count** cosmologies.
Often these two cosmologies will be mathematically aligned in this pdf for comparisons.
From this analysis the Egyptian **Royal Cubit** is defined as a constant and dynamic value integrating the planetary calendar counts into the Giza pyramids dimensions.
Giza Pyramid measurement data by the 4 most famous historic figureheads involved is compared, analyzed and refined to prove the applications of the ancient cosmological convergent Pi and Phi values to the actual intended design of the pyramid dimensions.
Late 19th century pyramidologist Flinders Petrie has garnered the greatest fame for his startling and confusing measurement data here titled **The Flinders Petrie Conundrum**, in which his Khufu pyramid base lengths are found to be all of uneven proportions.
This data is then directly compared to his contemporary **Coles** who was commissioned by the Egyptians to follow up on the original Petrie data in the 1920s.
This measurement data is thus scrutinized to show the great disparities of both of their completely divergent data per pyramid base lengths, to include the heights and slopes, in which Petrie allows fascinatingly huge factors of error excused with this data being "balanced" by average or mean base lengths, heights and slopes.
Included into the overall analysis are **IES Edwards** Giza pyramid measurements, and the most recent scientific measurements performed by **Mark Lehner** on the Giza pyramids, in which the Menkaure pyramid is found to have a rectangular base contrary to Petrie and Edwards analysis, of which Lehner's measurements are short by several feet.
The Khufu pyramid is represented clearly by an Ancient Pi sacred geometry planetary time line accounting system with a square base of {**756**} feet.
Egyptians did not use modern Pi because it cannot be fractionally expressed, and thus **Ancient Egyptian Pi** is utilized to define all of the Giza pyramid dimensions in which the Egyptians used FEET and INCHES, {not meters as a measurement criteria}, with the **Royal Cubit** applying the planetary time lines to the dimensions.
Alternate convergent forms of A**ncient Pi and Phi** are also applied to the mathematics, and these values are directly expressed by fractions that the Egyptians could employ.
The **Royal Cubit** is: {**20 .618 18 18**~} = {**1134 / by 55**}. **Ancient Pi** = {**22 / 7**}.
Ancient Pi then creates a convergent "Square Root Phi" value in the equation for the Khufu pyramid slope:{**4 / by Ancient Pi**} ={**14 / 11**}= **Sqrt. Ancient Egyptian Phi**.
This is titled as such because of modern references to the slope of the Khufu pyramid being attributable to the modern square root of Phi value as the arctangent for the slope.
The actual ancient **Phi** value that integrates with **Ancient Pi** is {**14 / 11**}**sq.** ={**196 / 121**}.
An ancient "Calendar Count Phi" value of {**1.62**} is also used because it bridges both Egyptian and Mayan cosmologies. This Phi value has a square root tied to modern Sqrt.**2**.
Sqrt{**1.62**} **/ by 9** = modern **Sqrt. 2 / by 10, and** {**162**} = {**3 x 6 x 9**}**.**
The Masonic Codes are then revealed to directly express Ancient Egyptian Pi and Phi!

Table of Contents with Introductory and Preface section:

Introductory and Preface section

It is highly recommended to read the preceding pdf:

The Universal Harmonic Codes Part 1:
Ancient Pi, Ancient Phi, Modern Pi and Phi, Universal Harmonic Pi, Grand Unification of Modern and Ancient Mathematics

And then browse the prior releases over the last 2 years:
The **Mars Pentad Time Pyramids** Part 1 as a quick review and **Part 2** more closely
Ancient Egyptian Pyramid Pi - Solfeggio Synchronicities
Establishing a New Value for Modern Pi
Tesseract Hypercube 261 Fourth Dimension Egyptian and Mayan Cosmology
Masonic Code Deciphered from Philadelphia Grand Masonic Lodge Architecture

Instructions for reading The Universal Harmonic Codes Preface

There are about **24 pages of pre document sections** for the reader to incorporate in a quick fashion so as to not be buried by them.
Both the **first two image diagrams** and text should be viewed closely.
The **Glossary and Floating Decimal** system sections must be read closely, especially to understand how decimal variations and floating decimal systems operate.
Egyptian and Mayan Calendar and Number Count Systems Intro 3 pages gives the reader an idea of how Mayan Long Count and Egyptian Ancient Pi numerologies integrate and connect together as planetary cosmologies in astronomic calendar count.
Egyptian Calendar Count 360 Day Year section must be reviewed.
Universal Harmonic Pi two page section should be reviewed.
Mayan Long Count and Tzolkin based Planetary Timelines should be browsed.
From there:
Ancient Calendar Count Number systems, FAST TRACK Summary is out of the first Universal Codes pdf and can be browsed as well, or used as reference. 5 pages.
These several page sections:
Mars Pentad Mounds Tetrahedral Grid Calendar Count Values can be browsed, and the associated diagrams are for reference and to allow the reader to see how the Universal Harmonic Codes and Universal Harmonic Pi operate in the geometry, and is offered to give the reader an idea of where this all started over 2 years ago.

Dr. Horace Crater's Mars Pentad study
Mounds of Cydonia, Case Study for Planetary SETI
http://spsr.utsi.edu/articles/jbis2007.pdf

Universal Harmonic Pi and Mars Pentad mounds dynamics in Ancient Phi
is the last section in the introductory preface section, and is attached to the Mars Pentad information as highly interesting new analysis revealing important Egyptian numerology and an equation process with a Pentad length which reveals the exact NASA Jupiter sidereal.
IMPORTANT:
Decimals ending with ~, such as {1 .33333**~**} means that the replicating decimal is infinite.
It can also mean that the decimal is not replicating but still is too long to display.
If you are using a ten digit calculator, you need to use fractions as much as possible.
Ancient Pi = 22 / 7, Egyptian Ancient Sqrt. Phi = 14 / 11, thus Ancient Phi = 196 / 121.
Ancient Pi = {3.142857 142857~}, Ancient Sqrt. Phi = {1.27 27 27~}, Ancient Phi = {1.619834711}
By using fractions the calculator rounds off for you at the tenth digit.
The fraction for the Royal Cubit is {**1134 / 55**}. ALSO: Ancient Calendar Count Phi = **1.62**
Thus {**Sqrt 1.62**} = Sqrt. Calendar Count Phi = {36 / by sqrt800}.

Ancient 99 number count system manuscript

9 x 11 = **99**, and {**99 / by 63**} = **Ancient Pi / 2** = aPi / 2

The 99 calendar count systems creates replicating decimals that conform to Khufu Ancient Pi style replicating decimal mathematics and dynamics:
{**99 / 63**} = {**aPi / 2**} ={**22 / 14**}= {**1 .571428 571428**~}, & the inverse = {**0.63 63 63**~}.

Numbers in this document are parenthesized to enable better focus

on the multitudes of numbers in stacked lines so as to facilitate recognitions of the harmonic cycle or convergence of those numbers, and specifically to help differentiate numbers when they are congested in many equations on one, or many pages.

Definition of **SIDEREAL**: **The time period for a PLANET to orbit the sun**.
Definition of **SYNOD: also called the SYNODICAL,** the time period or interval between two conjunctions of planets. **Mars has a 780 day SYNOD with Earth. Every 780 days Mars shows up in the exact same position in the sky on Earth. Mars synod 780 x Pascal 252 = Egyptian Mars sidereal 687.27 27 27~ x Pascal 286.**

Saqqara Pyramid Comparisons

Sqrt. Ancient Phi = Sqrt.aPhi = 1 .27 27 27 27 27~

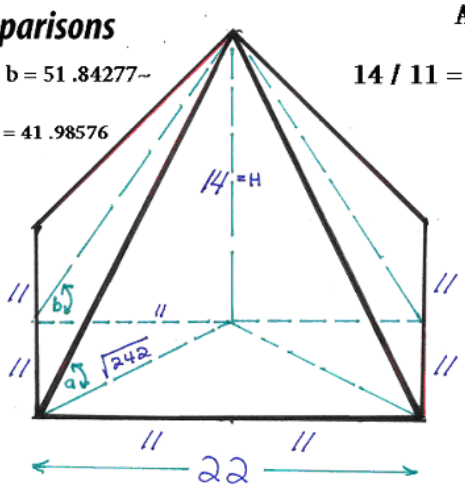
Ancient Phi = aPhi = 1 .619834711

= 196 / 121

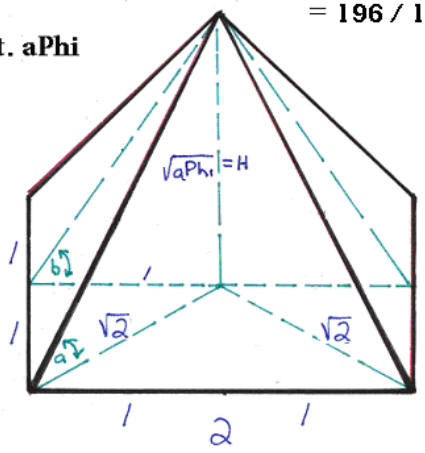
14 / 11 = Sqrt. aPhi

angle b = 51 .84277~

angle a = 41 .98576



angle b = 51 .84277~ degrees



angle b = 51 .84277~ degrees

when H= modern sqrt. Phi

angle b = 51 .82729~ deg.

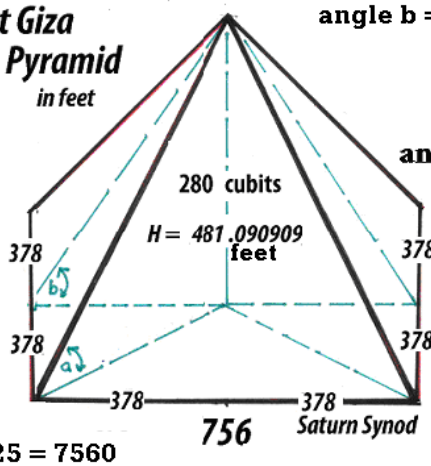
Great Giza KHUFU *Pyramid*

in feet

14 / 11 = *481.090909 / 378*

14 / 11 = Sqrt. aPhi

=1 .27 27 27 27 27~



angle b = 51 .84277~ degrees

angle a = 41 .98576

arctan 0 .899954

aPhi = { 14 / 11 } squared

aPhi = 196 / 121

16 = aPhi x aPi squared

16 squared = 256

256 x Lunar Month 29.53125 = 7560

Royal Cubit = 1134 / 55

440 Royal Cubits

9072 inches

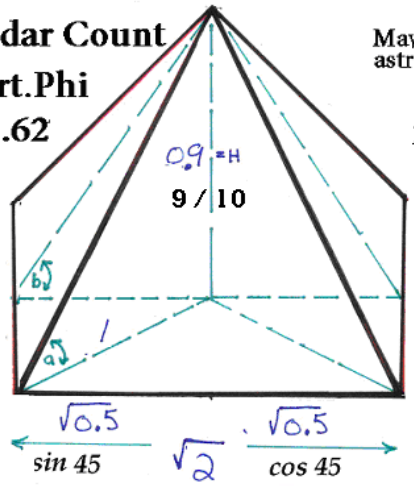
756 feet

10 x Khufu base 756 =7560 =21 x Earth 360 =11 x Mars 687 .27 2727~= 20 x Saturn 378

Ancient Calendar Count

Sqrt.Phi

1 .62



angle a = arctan 0 .09 = 41 .9872

702

Mayan Dresden Codex astronomical constant

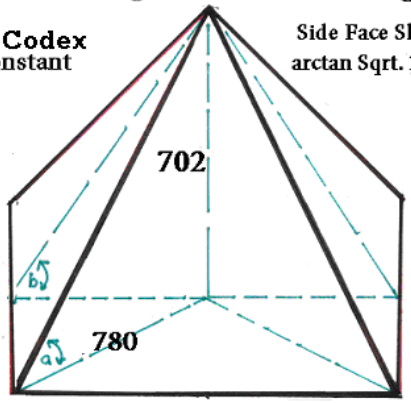
780

Mars Synod

angle b =51 .84419~degrees

Side Face Slope

arctan Sqrt. 1.62



Sqrt 304200 Sqrt 304200 = 702

Sqrt 1216800 Sqrt 1.62

304200 = 390 Mars 780 day synods

304200 = 520 Venus 585 day synods

1216800 = 13 x 260 Tzolkin x 360 Calendar Count

The Speed of Light in Pi and Phi Universe Equation

can use **Pi** or **Universal Harmonic Pi as** {**uPi**} in convergence dynamics**:**
Modern Phi emanates from direct equations in **Sqrt. 5** pentagonal geometry.
Modern Pi is a scientific value that I must use here, because math scientists will demand that the Pi value is perfect and the prime value for Pi to be applied.
However, Universal Harmonic Pi is a number that fundamentally operates uniquely as a constant in the pentagon and dodecahedron in direct applications of those geometry angles sines, cosines and tangents. Examples have been shown here earlier to prove that:

Phi / by cosine {**72**} **degrees =** {**Sqrt. 5 plus 3**}**.**
Cosine {**72**} **degrees x Phi =** {**0.5**}**,**
{**0.5**}= tangent **26.56505118** degrees from the {**1 by 2 and Sqrt.5**} triangle ←----!,
and:

Sqrt.3 / by cos72 degrees = **the Square Root of** {**10 uPi**}. ←--**uPi =** {**3.141640787**}
Sqrt.3 corresponds to {30-60-90} geometry, tangent of 60 degrees = Sqrt.3.
The two angles of highest replicating geometry are {**26.565**~} and tetrahedral {**19.47122063**~}.

NEXT:

Tangent of tetrahedral {**19.47122063**} degrees = {**1 / sqrt.8**}.
Cosine {**72**} degrees / by {**1 / sqrt.8**} = {**x**},
then {**x**} **x Phi = Sqrt. 2 = tetrahedral tangent in the Mars Pentad mounds**.

NEXT:

I will now take the volume of a sphere: {**4/3 Pi x radius cubed**},
and **apply the number 2 as the radius, thus the radius cubed is 8,**
and also to **use uPi as Pi,** noting that Khafre pyramid slope tangent is {**4/3 = 1.33333**~}.
-----→ 10 x sphere volume equation {Khafre **1.33333~ x uPi x 8**} = {**x**}, ←-----
then noting that the radius **2** is the opposite tangent value to {**0.5**} calculated earlier**:**
{**x**} **/ by Phi squared** = {**128**} exact.
Modern Pi cannot accomplish these results that uPi will produce as direct integers,
showing that uPi is extremely versatile in angles that are the predominant forms of geometry.
The point of all the above is to show that uPi will operate in the Universe Equation as a candidate that expresses pentagonal, tetrahedral and Sqrt.3 geometries as well as the Dodecahedron.
------→**NOTE! 10 x** {**Khafre 1.33333~ x Ancient Pi x 8**} = {**335 .2380952**~}, ←----note earlier equation.
Then: **9900 / by Khufu Pyramid Lunar Month 29.53125 =** {**335 .2380952~**}**,**
as **16 squared =** {**256**}, then {**256**} **x Lunar Month 29.53125 =** {**756**} **feet Khufu base length.**
{**335 .238095 238095~**} in feet will be a Menkaure Pyramid of {**2560**} inches height later in the text!

To satisfy modern math science to accommodate the **Universe Equation** step by step:
The Speed of Light = {**C**} = **299792.458** km / sec. ←------ Step one.
Click {**Pi**} on your hand computer.
Square it TWICE to equal {**97.40909103**} = {**x**} ←------Step two result.
Thus, **The Speed of Light Pi and Phi Universe Equation**:
{**C**} **/ by** {**x**} **= 1000 x the tangent of 72 degrees**. ←----------!
The result = 1000 x tangent of {**71.9998934**} degrees, convergence dynamic excellence.

NEXT:

Ancient Egyptian Phi = Khufu slope tangent {**14 / 11**}**sq**. ={**196 / 121**}= {**1.619834711**}.
{**19**}**:** ancient luni-solar Metonic cycle number for Lunar Months in relation to the sun.
{**19**} x Ancient Egyptian Phi {**196 / 121**} = **10** times tangent {**72**} degrees, {**72.0000132**}
Thus proving my **Convergence Dynamics** theories, comparing the three resultant angles:
Universe Equation = {**71.99989003**}, to Metonic {**72.0000132**}**, to pentagonal** {**72**}**.**

GLOSSARY and Mathematical Constants {Egyptian constants employed}

Ancient Pi = 22 / 7 = {**3 .142857 142857 142857**~} **= aPi**

Ancient Square Root Phi = {**1 .27 27 27 27 27 27**~} **= Sqrt** {**aPhi**} = {**14 / by 11**}

Ancient Phi = {**1 .619834711**~} **= aPhi =** {**14 / 11**} **squared,** or {**196 / 121**}**.**

Ancient Calendar Count Phi = {**1 .62**} **or 162 =** [**3 x 6 x 9**], or Sqrt {**1.62**}.

Khufu Constant = {1 .203 703 703 703~} = {**195 / by 162**} = **KhC**
Replicating decimal {**0 .203 703 703 703**~} = {**11 / 54**}, {0 .703 703 703} = {**38 / 54**}.
Replicating decimal {**0 .203 703 703 703**~} = Solfeggio **528 / by** Platonic Age **25920**

Egyptian Kemi = 3600 squared = {**12960000**}, and base value = {**1296**}

primary **Ancient Square Root Two =** {**1.4 142857 142857 142857**~} = {**99 / 70**}.
secondary **Ancient Square Root Two =** {**1.4 14 14 14 14 14 14**~} = {**140 /99**}.

Mayan Long Count = 1872000 = MLC
Mayan Dresden Codex Astronomical Constant = {**702**}
Mayan Tzolkin Spiritual Calendar {**13 x 20**} = {**260**} **days**
The Mars and Earth synod = 780 days = 3 x 260 Tzolkin

The Mars Pentad: A set of five mounds on Mars that have a tetrahedral grid which is a geologic impossibility, thus they are an extraterrestrial or native Mars artificiality.

The Khufu Constant: {**1 .203 703 703 703**~} = {**195 / 162**} **= KhC** ←------

The replicating decimal of {0 .203 703 703 703~} = {**11 / 54**}**.**
The Khufu Constant is found in Egyptian numerologies attached to the Pyramid designs that are functions of **Ancient Calendar Count Phi =** {**1 .62**}, or **162 =** [**3 x 6 x 9**].

Ancient cultures were aware of the tetrahedral angle {**19 .47122063**} degrees,
and for practical and simplified mathematical purpose this value is {**19.5**}.
For Calendar Count system purposes this value is simply the numeric set {**195**}.
The **KhC** value is connective between Egyptian numerologies and planetary astronomical timeline functions, for instance the Mars **780** synod and the Mayan Long Count**:**
Kemi base numeric set {**1296**} **/ by 2**= {**648**}, then {**648**} x **KhC** = **780** Mars synod.
Mayan Long Count {**1872000**} / by **KhC** = {**1555200**} = **1200 x** Kemi base value **1296.**
The **Khufu Constant** connects Egyptian numerologic values to planetary timelines:
Egypt Kemi base value **1296** times **KhC** = {**1560**} = Mars **780** synod times **2**.
Important Egyptian number value {**9 x 54**} = {**486**}, then **x KhC** = {**585**} Venus synod.
72 squared = Egyptian number **5184,** then **x KhC** = {**6240**} = **8 x 780** Mars synod.
Egyptian value {**2160**}, then **x KhC** = **10 x** {**260**} Tzolkin. ←------!
Egyptian value {**2160**} = Egyptian Mars {**687 .27 27 27**~} x **Ancient Pi**.

Necessary to read to understand the "floating decimal system"

Short summary of the Decimal Variation Systems and numeric sets:

The fractional decimals that the **9** creates to infinity follows in these fractions:
[**1 / 9**] = [**0.1111111**], **……** [**2 / 9**] = [**0.22222222**],**…...** [**3 / 9**] = [**0 .3333333**] and so on.
Egyptian style Mars sidereal {**687 .27 27 27**~} **/ by Royal Cubit** = {**33 .333333**~}.
Comparing the decimals at the end of the last 2 lines, is an example of floating decimal.

Thus the author expresses everything in decimal form for this reason:

To reveal dynamic repetitive important coincident numeric sets as comparatives.
Ancient Calendar Count Phi = {**1 .62**} or {**162**} = {**3 x 6 x 9**}
{**702**} **/ by Ancient Calendar Count Phi = {433 .33333~} = 1/10th Jupiter sidereal,**

The Jupiter sidereal in days{**4333.33333~**}, then **/ by 9** = {**481. 481 481**~},
Then: Pascal triangle number **364 / by** Khufu base **756** = {**0 .481 481 481**~}
Note: {**481. 481 481**~} **/ by** Khufu Constant {**1.203 703 703**~} = {**400**}!
Tzolkin **260 / by 540** = {**0 .481 481 481**~} = Mars synod **780 / by 1620**.

The Jupiter sidereal in days is {**4333. 33333~**} = **13** x {**333. 333333~**},
and the sine of tetrahedral angle {**19 .47122063**} = {**0 .333333333~**}.
Using the Jupiter value for the sidereal of {**4333 .33333**} days,
the author cannot show comparative cycling of numbers with unique decimal form
of repetition by saying that the Jupiter sidereal is {**4333 and 1/3**} days,
because fully typed out numeric text reveals the repetitive decimals in numeric sets
by expressing the decimal in full as such:
The Mayan Dresden Codex {**702**} **/ by** {**360**} Egyptian / Sumerian calendar = {**1.95**},
and this is a decimal variant of the set {**195**}, which is the Khufu Constant numerator,
of which also this value is attributed as the tetrahedral angle of {**19.5**} degrees as a count
system constant. Thus the numeric set is **195**.
{**19.5 / by 9**}={**2.1666666~**} = {26 / by 12}. The **26** thus correlates to the **260** Tzolkin.
And thus [**20 x 216 .666666~**] = {**4333 .333333~**} Jupiter sidereal.

Dresden Codex {**702**} = {**26 x 27**}, or **10 cycles** of {**702**} = Tzolkin **260** x **27**.
The decimal variation process follows into the square roots as well.
Tzolkin **260** squared = {**67600**}, then {**2.6**} is the square root of {**6.76**}.

The Mars synod **780** in decimal variation analysis:
[**0 .78**]----→ [**7 .8**]----→[**78**]-----→ [**780**]
and one can thus follow this two ways,
as 780 x {4333 .33333~} Jupiter sidereal **= [338,000] =** 1300 x 260 Tzolkin.
[**0 .78**] **x** {**4333.3333~**} Jupiter sidereal **= [3380] equals 13 x 260 Tzolkin**

The author displays the fraction as decimals in a fashion as such:
Pascal Triangle number **364 / by 1680** Ceres sidereal =..{**0.21666~**},
Tetrahedral **19.5 / by 9** Mayan Lords of the Underworld = {**2.16666~**},
The Mayan Tzolkin {**260**} **/ by** {**12**} =……{**21.6666~**}.
The vigesimal Jupiter sidereal {**4333.33333~**} =……..**20 x** {**216.6666~**}.

Floating Decimal Dynamics in Mayan Long Count and Egyptian Mars Sidereal

The Mayan Long Count and Egyptian Ancient Pi numerologies are mathematics and calendar count systems that inevitably overlap and integrate with each other.
This will be a step by step process to show correlations and unique connectivities, by utilizing and connecting with just the single placement of the decimal.

Follow as a step by step progression watching decimal variation:
The Mayan Long Count Jupiter sidereal is {**4333 .33333**~ } days = 13 x {333 .33333~}.
The value ascribed to ancient "Calendar Count Phi" is {**1.62**}.
1 /10^{th} Jupiter sidereal = {**433 .33333~**},
then:
{**433 .33333**~} x ancient Calendar Count Phi {**1.62**} = {**702**} Mayan Calendar Constant
then:
{**433 .33333**~} x {**2 Ancient Pi**} x Egyptian Mars sidereal {**687 .27 27 27**~} ={**1872000**}
and {**1872000**} = Mayan Long Count.

Jupiter {**4333 .33333**~} **/ by** Mercury synod {**117**} = {**37 .037 037**~} ←---note.
Then in floating decimal:
{**0 .037 037 037**~} x Mars {**687 .27 27 27**~} = {**25 .45 45 45 45**~} ←----Note.
Then:
{**25 .45 45 45 45**~} = Sqrt Ancient Phi {**1 .27 27 27 27**~} **x 20.**

New Decimal variation set with alternative "sevenths" six digit sequence

The Ancient Pi "sevenths" create replicating decimal sequences that rotate in order:
Ancient Pi = {**22 / 7**} = {**3 .142857 142857 142857**~},
{**1 / 7**} = {**0.142857 142857**~}, {**2 / 7**} = {**0 .285714 285714**~}.
There are at least 2 other replicating sequences that use the exact same integers that the "sevenths" use, but they replicate in a different order and they are part of cycles in Pascal triangle value **286,** and note that {**286**} **x** {**1 .27 27 27**~} = Pascal value {**364**}.
To show an example, the Mayan Long Count Mercury synod {**117**},
and the Egyptian Mars sidereal {**687 .27 27 27**~} will be used because they should work together, since both operate as cycles in the Mayan Long Count.
Then Ceres sidereal {**1680**} and Pascal {**286**} in a similar equation will be compared.
Mars {**687 .27 27 27**~} **/ by** Mercury {**117**} = {**5 .874125 874125 874125**~} ←--NOTE
Ceres sidereal {**1680**} **/ by** Pascal value{**286**} = {**5 .874125 874125 874125**~} ←NOTE
Replicating decimal {**0 .874125 874125**~} = {**250 / 286**} = {**1000 / by 1144**},
Where looking at values with that denominator **1144** as {Pascal 286 x 4 = **1144**}:
Convergent Pi value {**3 .141608392**~} = **3** and {**162 / by 1144**}
Where:
{**162**} = **1000** x Calendar Count Phi {**1.62**},
and {**1144**} = Pascal value {**364**} x **Ancient Pi,** and {**11440**} **/ by** {**260**} Tzolkin = **44**.
The sequence order: {**0 .125874 125874**~} = {**36 / 286**},
{**0 .258741 258741**~} = {74 / 286}, decimal is the exact same integers as the sevenths.
{**0 .587412 587412**~} = {**168 / 286**}, where {**168**} = **Solfeggio 528 / by Ancient Pi**.

VERY IMPORTANT TO READ PAGES 9-16 as a preview:

Egyptian and Mayan Calendar and Number Count Systems Intro:

Number count systems are the spiritual mathematics of the ancient cultures,
and these are inextricably tied to the **planetary timelines** of the first six planets
which are defined by their sidereal and synods.
Planetary Sidereal: This is basically the solar orbit of a planet with Earth at **365 days**,
and Venus at **225 days** to orbit the sun. This is the **Venus sidereal**.
In Mayan cosmology, the **Jupiter sidereal** is accounted as {**4333 .33333**~} days.
This value aligns in calendar because it is perfectly divisible in the **Mayan Long Count**:
Mayan Long Count **1872000 days / by** {**4333 .33333**~} = Egyptian number **432.**
Mayan Long Count or **MLC 1872000 = 13 x 144,000,** and Tzolkin {**260**} x {7200}.
Jupiter sidereal {4333 .33333~} = **13** x {333 .33333~}.
The Mayan Tzolkin spiritual calendar {**260**} = {**13**} x {**20**}.

Planetary Synods: These time periods are best described by looking at Venus in the sky,
and then the amount of time it takes for Venus to return to that same exact sky position.
The **Venus synod** is **585** days = {**13 x 45**}, and the **Mars synod 780** days = {**13 x 60**}.
These two synods are {**780 / by 585**} = {**1.333333**~}, the Khafre pyramid slope tangent.
The Mars synod {**780**} = exactly **3 x** the Mayan Tzolkin **260** spiritual calendar count.
The Venus synod {**585**} **/ by** the Tzolkin {**260**} = {**2 .25**} ---→ **225** Venus sidereal.

Mayan Long Count and Tzolkin number systems optimize the number **13,**
and the number **9** is their ultimate cosmological number.
Note that {**13 / by 9**} = Mars synod {**780**} **/ by** {**540**} = {**1 .444444**~} ←--note.
with **540** as the total degrees in a pentagon, and an important Egyptian number.

The Mayan Long Count divided by {**1 .444444**~} = {**1296000**} = {**360 x 3600**},
and {**1296**} is the base Egyptian "Kemi" value: {**3600**} squared = {**12960000**}.
Therefore:
Kemi {**12960000**} **/ by** {**540**} = {**24,000**}.
Then:
Saturn synod {**378**} **/ by** {**540**} = the ratio {**7 / 10**}.
{**7 / 10**} is the same ratio that the Egyptian Mars sidereal {**687 .27 27 27**~}
has with the height of the Khufu pyramid:
Khufu Pyramid height {**481 .09 09 09**~} **/ by** {**687 .27 27 27**~} = {**7 / 10**}.

The above progression is just one example of how the Mayan and Egyptian
mathematical cosmologies integrate each other within "universal harmonic codes".

The Mayans had a Haab civil calendar: {**12 x 30**} = {**360**} days, with 5 uayeb days.
Sumerian and Egyptian calendar count: {**12 x 30**} = {**360**}.
Egyptian number systems are ruled by the numbers **7** and **11**,
which in fractions create replicating decimals, and {**11 / 7**} = **Ancient Pi / 2,**
therefore **Ancient Pi** = {**22 / by 7**} = {**3 .142857 142857 142857**~},
and Ancient Pi is also defined in the ancient **99** count system {which also creates
replicating decimals} as: {**99 / by 63**} = **Ancient Pi / by 2.**

Egyptian Ancient Phi and Ancient Sqrt. Phi also use 7 and 11.
This value of "ancient Egyptian Sqrt. Phi" is basically {**2 x 7**} **/ by** {**11**}.
{**14 / by 11**} = Square Root Ancient Egyptian Phi = {**1 .27 27 27 27**~} = {**126 / 99**},
where {**126 x 3**} = Saturn synod {**378**}.
Egyptian Square Root of Ancient Phi is defined as such because it is the slope tangent of the Great Khufu Pyramid, arctan {**1 .27 27 27 27**~} = {**51. 84277**~}
and also because the **Sqrt Ancient Phi** {**1.27 27 27 27**~} **x Ancient Pi** = exactly **4**.
Therefore:
Ancient Egyptian Phi must equal {**14 / 11**} squared = {**1 .619834711**~},
and this aligns with Ancient Pi:
Ancient Egyptian Phi {**1 .619834711**~} times **Ancient Pi squared** = {**16**} exact.

These above are Egyptian values for Pi and Phi. **Mayan values are different**.
Mayan Calendar Count Phi = {**1 .62**}, or {**162**} = {**3 x 6 x 9**}.
It is the **9** that connects this Phi value to Mayan Long Count planetary timelines:
Jupiter sidereal {**4333 .33333**~} **/ by** {**9**} = Mars synod {**780**} **/ by** {**1 .62**}.
Venus synod {**585**} **/ by** {**9**} = {**65**} = Mars synod {**780**} **/ by** {**12**}.
Venus synod {**585**} **/ by 5** = Mercury synod {**117**} = {**13 x 9**}.

The Egyptians had to recognize {**1.62**} or **162**} as a calendar count vehicle as well:
Kemi base value {**1296**} **/ by** {**162**} = {**8**} exact., and {360 / 162} = {20 / 9}.
Important: ←---!
In this document when referring to the **Square Root of Ancient Phi** = {**14 / by 11**}:
this is an **Egyptian value unified to Egyptian Ancient Pi** and the "sevenths"**.**
Mayan Ancient Phi would have to be aligned with the **9**,
and this is **Ancient Calendar Count Phi** = {**1 .62**}, or {**162**} = {3 x 6 x 9},
Therefore:
The Square Root of Ancient Calendar Count Phi = **Sqrt** {**1.62**},
and **Sqrt**{**1.62**} **/ by** {**9**} = **modern** Square Root **2** divided **by** {**10**}.
and C**alendar Count Phi**{**1.62**} aligns into Mayan mathematics in this example:
The Mayan Long Count Jupiter sidereal is {**4333 .33333**~} days, and:
{**4333.33333**~} x {**1.62**}= **10 x** Mayan Dresden Codex astronomical constant {**702**}.
Next:
Sqrt.{**1.62**} x tangent **30** degrees = **Sqrt.**{**0.54**}
The value of {**0.54**} within the above Sqrt. = {**Ancient Pi x Royal Cubit Foot / by 10**}.
The Royal Cubit Foot value is {1 .718 18 18 18~}, then **x 400** = **Mars** {687 .27 27 27~}.
{**0.54**} ={**687 .27 27 27~ / by 1272 .72 72 72**} where 1000 x {**14 / 11**}= **1272 .72 72 72**~.

Another cross correlation:
Venus synod {**585**} **/ by** {**1.62**} ancient Calendar Count Phi = {**361 .11111**~} ←---note.
Take that number into the Mayan Long Count:
MLC {**1872000**} **/ by** {**361 .11111**~} = Egyptian number {**5184**} = **72** squared.
Or:
{**361 .11111**~} **/ by** Jupiter sidereal {**4333 .33333**~} = {**0 .08333333**~} ←----note.
The value:
{**0 .8333333**~} = modern **Phi squared / by uPi** or Universal Harmonic Pi.

The **Mayan Dresden Codex astronomical constant** is **702** days. **702 = 13 x 54**.
This creates a perfect ratio with the Mars synod:
Mayan Dresden Codex **702 / by 780** Mars synod = {**9 / 10**} = {**0.9**},
{**0.9**} is almost the exact slope tangent of the Khufu pyramid corner angle {0 .899954~}.

MAYAN Long Count {**1872000**} **/ by** {**702**} = {**2666 .66666**~},
And this value correlates into Egyptian numerologies as such:
Kemi base **1296 / by** Egyptian number **486** = {**2 .66666**~}.
{**2 .66666**~} / by Ancient Pi = {**84 / 99**}.
Platonic Age value {**25920**} **/ by** {**2 .66666**~} = {**9720**} = {**18 x 540**} = {**27 x 360**},
{**9720**} = Mars {**687 .27 27 27**~} x 10 Ancient Sqrt 2 or {**990 / 70**}.

An even more important fraction occurs with the **Venus synod**:
Venus {**585**} **/ by** Mayan Dresden Codex astronomical constant {**702**} = {**0 .8333333**~},
or vice versa:
{**702**} / by Venus {**585**} = {**1.2**},
which is excruciatingly close to **modern Pi / by Phi sq =** {**1 .19998 1615**~} = {1.2}.
From this Mayan cosmological ratio between Venus {**585**} and the Mayan {**702**},
the value for **Universal Harmonic Pi** = {**uPi**} emerges into the equations:
uPi / by Phi sq. = {**1.2**} = {**6 / 5**},
or more importantly {**10uPi / by Phi squared**} = {**12**} ←-----NOTE !
Modern Pi = {**3 .141592654**~}, and uPi = {**3 .141640787**~}, a difference of {**0.000048**~}

Universal Harmonic Pi = {**uPi**} in Pentagonal and Sqrt 3 geometries:
Sqrt 3 / by cosine {**72**} = Sqrt of {**10 Universal Harmonic Pi**} exact!
Cosine {72} degrees = {inverse Phi / 2}, and tangent 60 degrees = Sqrt3.
Cosine {60} degrees / by cosine {72} = Phi.

Sine **54** degrees = {**Phi / 2**},
then ---→ **Sqrt 3 / by** Sine **54** degrees = {**x**},
and {**x**} squared x **uPi** = {**14.4**} --→ 144 = **12** sq. and the Mayan Baktun = {144,000}.

Cosine **54 /** by Sqrt **3** = {**x**}
Then {**x**}**sq.** times {**uPi**} = {**3 .618033989 / 10**}, where {3.618033989} = Phi x Sqrt5.
Sine {54} / by Sqrt3 ={x}
Then {x}sq. x {uPi} = {**2.618033989** squared} **/ by 10**.

The Saturn sidereal = {**10759**} days, and works closely with modern Pi and {uPi}.
Saturn {**10759**} **/ by** {**13**} = {**x**}, then {**x**} x **Pi** = {**2600**.**00**30412} = 10 x Tzolkin 260.

Saturn sidereal = {**10759**}, then **/ by** Mars synod {**780**} = {**x**},
Then {**x**} x 100**Pi** = {**4333. 3**84021~} = Jupiter sidereal {**4333 .33333**~} close enough.

For the NASA astronomy crowd that cannot find ancient planetary timelines palatable:
The NASA Venus synod = {**584**} days = {**100 / by 13, then x Pi**}, THEN **squared**.
Off exact **584** days by **22.5** seconds.

Egyptian Calendar Count 360 day Year

The best way to look at the ancient Sumerian and Egyptian style Calendar systems is to look at predominant multiples of the 360 day Earth year as accounted for then.
The "Kemi" base value is **1296**, and the ultimate value is **3600** squared = {**12960000**}.
{**36 x 360 = 12960**}, {**72 x 360 = 25920**}, {**144 x 360 = 51840**}.

Next: Multiples of {**21**} = {**3 x 7**}.
{**21 x 360**} = {**7560**} = **10 x** Khufu pyramid base length = 20 Saturn synods.
{**42 x 360**} = {**15120**} = Khufu pyramid height {**481. 09 09 09**~} **x 10 Ancient Pi**.
Jumping ahead in the progression:
{**21 x 8**} = {**168**} ={**5280 mile / by 10Ancient Pi**},
then:
{**168 x 360**} = {**60480**} = Mars sidereal {**687 .27 27 27 27**~} x {**88**} Mercury sidereal.

The Egyptian {and Mayan} Venus sidereal {solar orbit} = **225** days.
Often seen in ancient iconography such as Sumerian cylinder seals is the **16** pointed star.
This 16 Pointed Star is seen as well in the Grand Masonic Lodge Interior architecture.
{**16**} x {**225**} Venus = {**3600**} or ten {**360**} day Earth years.
Egyptians could use the Venus synod as {**585**} days just as the Mayan Long Count did.
1000 Venus {**585**} day synods = {**585,000**} = {**1625**} Earth years of {**360**} day count.
The Mercury synod is {**117**} in Egyptian and Meso American cultural count systems.
{5 x **117** Mercury synod} = {**585**} Venus synod.
1000 Mercury {**117**} synods = {**117,000**} = {**325**} Earth years of {**360**} count.
{**6 x 117** Mercury synod } = {**702**} Mayan Dresden Codex astronomical constant.
{**7 x 117** Mercury synod } = Mayan astronomical calendar glyph {**819**}←---note value.

Any integer times {**360**} is a multiple of {**18**} where the value 18 is:
{**18**} = **10 x** Ancient Sqrt Phi {**1 .27 27 27**~} x "Ancient Sqrt 2" {**1 .414 285714**~}.
Therefore:
---→ {**13**} x {**360**} = {**18**} x {**260**} Tzolkin ←---!
Mayan Tzlokin {**260**} **/ by** Mercury synod {**117**} = {**20 / 9**} = {**2 .222222**~} ←-- note.
The {**2 .222222**~} = {**20 / 9**} fraction in Egyptian systems:
{**2 .222222**~}**/ by** {**1 .414 14 14 14 14**~} = **Ancient Pi / 2,**
{**2 .222222**~} **x** {**1 .414 285714 285714**~} = **Ancient Pi,**
where the "Ancient Sqrt 2" values equal:
{**140 / 99**} = {**1 .414 14 14 14**~} TIMES {**99 / 70**} ={**1 .414 285714 285714**~} = **TWO**.
Above and below shows how the ancient {**99**} count system works with Ancient Pi.
{**99 / by 63**} = **Ancient Pi / 2**,
{**13 x 63**} = Mayan glyph {**819**}
Mayan glyph {**819**} **/ by** {**780**} Mars synod = Saturn synod {**378**} **/ by** {**360**}.

CONVERGENCE DYNAMICS in ancient and modern mathematics systems:
Mayan Glyph {**819**} **/ by** Venus synod {**585**} = {**1.4**} = modern {**Phi x e**} **/ by Pi**.

{**99 x 360**} = {**35640**} = 100 x the Menkaure base length attributed by I E S Edwards.
{**55 x 360**} = {**19800**} = {**200 x 99**}.

Universal Harmonic Pi is abbreviated to **uPi,** and uses modern **Phi.**

Modern Pi divided by modern **Phi** squared = {**1 .19998 1615**} = **1.2** rounded.

Universal Harmonic Pi divided by modern **Phi** squared **= exactly 1.2 =** {**6 / 5**}.
The difference between the two Pi values is {0 .000048}.
Thus modern Phi squared divided by modern Pi = {**0 .83334**6101~}
Inversely, the equation of **modern Phi Sq. / by uPi** = {**0 .833333333333**~},
and the equation below with Venus synod {**585**} and Mayan Dresden Codex {**702**}
is how I first noticed the correlation to modern Phi squared / by modern Pi:
Venus synod {**585**} **/ by** Mayan astronomical constant {**702**} = {**0 .83333333**~}.
The smallest cross sectional length in the Mars Pentad grid is Sqrt{0 .83333333}.

Universal Harmonic Pi divided by Phi squared = exactly 1.2 = {**6 / 5**},
Thus with Pi and Phi squared equated to a fraction of {**6 / 5**},
these constants are thus unified into a more competent simplified mathematic system that makes sense, and unites them to operate universal mathematic count systems with.
Therefore:
10uPi / by Phi sq. = 12,
The **12 inch foot** is thus {**10uPi / by Phi sq.**} **inches**.

The Mayan Long Count MLC **1872000** = **13 x** {**12 x 12000**},
therefore one can use Pi and Phi wherever the number **12** is associated in Calendar Count.
MLC {**1872000**} = **13 x** {**144,000**}, Mayan Baktun {**144,000**}={**120,000 Pi / by Phi sq.**}

MLC {**1872000**} x {**Phi sq. / by uPi**} = {**1,560,000**} = {130,000 uPi / Phi sq.}
Value {**1,560,000**} = Mars synod **780 x 2000.**
Value {**1,560,000**} = Jupiter sidereal {**4333 .33333**~} x **360** day calendar count**.**
Or:
Jupiter {**4333 .33333**~} **/ by** {**360**} = **10 x The Khufu Constant** {**195 / 162**}.
Then:
Khufu Constant x {**uPi / Phi sq**.} = {**13 / 9**} = {**1 .444444**~},
Where:
MLC {**1872000**} **/ by** Egypt Kemi value {**1296000**} = {**1 .444444**~}.

The Universal Pi Constant {uPi / Phi sq. = **1.2** = 6 / 5} creates mathematical balance.
Sqrt. Ancient Phi {**1 .27 27 27 27**~} **/ by** {**uPi / Phi sq**.} = {**1 .06 06 06 06**~}
Then:
Ancient Pi x {**1 .06 06 06 06**~} = {**3 .333333**~} = 10 x sine tetrahedral {19 .47122063}
And:
{**3 .333333**~} x 10 Royal Cubits of {**20 .618 18 18**~} = Mars {**687 .27 27 27**~} sidereal.

Ancient Pi x {**100 uPi / by Phi sq**.} x {**14**} = mile {**5280**},
Such that :{**100 uPi / by Phi sq**.} = {**120**} exact,
and {**14**} = {**10 Phi x e, then / by uPi**} in closest possible Convergence Dynamics,
over using modern Pi in the same equation. Note {e} = {2 .71828}.

Universal Harmonic Pi is a constant value found in the Dodecahdron geometries:
The Dodecahedron is composed of Sqrt 2, Sqrt3, and sqrt 5 geometries,
which are tetrahedral, and {30-60-90} geometry, and pentagonal geometries respectively.
{**Sqrt3 / Sqrt5**} **x** {**Sqrt2**} = **Sqrt**{**1.2**} = Sqrt.{uPi / Phi sq.}

In pentagonal geometry are angles **72** & **54** degrees:
Tangent {**72**} degrees **/ by** Sqrt {**5**} = tangent {**54**} degrees.
Now using Sqrt.{5},
in an extrapolation with the **uPi** equation {**Phi sq. / by uPi**} = {**0 .833333**~}:
{**Sqrt 5 / by** sine **60** degrees} = {**x**},
Then:
{**x**} **/** by **Sqrt**.{**0 .8333333**~} = Sqrt {**8**} = tetrahedral tangent opposite {19 .47122063~},
Another example:
Tangent of {**60**} degrees = **Sqrt 3,**
and cosine {**72**} = {**0.5 / by Phi**} = {sine 54 / Phi sq.}
Equation:
Sqrt 3 / by Cosine **72** degrees = {5 .605034154} = the **Square Root of** {**10 uPi**}.

{**Cosine 54 / by Sqrt. 3**} = {**x**},
Then {**x**}**sq.** times **uPi** = {**3 .618033989 / by 10**}, where {3 .618033989} = {Phi x Sqrt5}

{Sqrt3 / by sine 54} = {x}, then {x}sq. x 10uPi = {144} = 12 sq.
{sine 54 / by Sqrt3} = {x}, then {x}sq. x 10 uPi = {Phi sq.} squared.

Following this process with these important Cosmologic values shows how unifying
The uPi constant {1.2} is in mathematics systems:
Mayan Long Count = {**1872000**}
Egpyt Kemi base value = {**1296**}
Khufu Constant = {**195 / by 162**} = {**1.203 703 703 703**~} = **KhC**
Therefore:
Mayan Long Count = {**1872000**},then divided by **KhC** = {**1555200**}
Then:
{**1555200**} **/ by** Egypt Kemi value {**1296**} = **1200** = {**uPi / by Phi sq**.} **x 1000**.

Great Platonic Age value {**25920**} **/ by** {10uPi / Phi sq.} = {**2160**}←---Note.
and {**2160**} = Egyptian Mars sidereal {**687 .27 27 27**~} **x Ancient Pi.**

From earlier:
Khufu Constant x {**uPi / Phi sq**.} = {**13 / 9**} = {**1 .444444**~},
Now:
Venus synod {**585**} **/ by** {**1.444444**~} = {**405**} = {**5 x 9 x 9**}
Then using above value **405**:
1000 x Sqrt. Ancient Phi = {**1272 .72 72 72**~},
{**1272 .72 72 72**~} **/ by** {**405**} = {**3 .142536473**~} = **Harmonic Ancient Pi:**
harmonic Ancient Pi {**3 .142536473**~} **x Ancient Pi** ={**9 .8-7-6-5-4-3-2-0 987654320**~}
where: {**9 .876543209**~} **/ by** {**1 .234567901**~} **= 8** exact.

Mayan Long Count and Tzolkin based Planetary Timelines

MLC = Mayan Long Count = {**1872000**} days = {**13**} x {**144,000**}.
MLC {**1872000**} **/ by** {**360**} = {**5200**} cycles.
MLC {**1872000**} **/ by** {**260**} Tzolkin = {**7200**} cycles,
Then: {**360**} **/ by** {**260**} Tzolkin = {**18 / by 13**},
{**18**} **= the square root of** {**5 Ancient Pi x the Royal Cubit** of **20 .618 18 18 18**~}

MLC {**1872000**} **/ by** Mercury synod {**117 = 9 x 13**} = {**16000**}.
MLC {**1872000**} **/ by** Venus synod {**585 = 45 x 13**} = {**3200**}.
MLC {**1872000**} **/ by** Mars synod {**780 = 60 x 13**} = {**2400**}.
Jupiter sidereal {**4333 .33333**~} = {**13**} x {**333 .33333**~},
MLC {**1872000**} = {**433 .33333**~ x **2 Ancient Pi** x Mars **687 .27 27 27**~}.

The Mayans had options with the Earth Year in the Long Count:
It is highly likely they used {**364**} predominantly,
but using {**360**} Earth year day count is easy accounting as well.
{**364**} = {**13 x 28**}, 28 day long months correlating to the **13** lunar eclipses per year.
{**3640**} = {**14 x 260** Tzolkin}.
MLC {**1872000**} **/ by** {**364**} = {**36,000 / by 7**}.
Accounting between a 365 day year and 364 count is simply: every 5 years add 5 days.
Or:
{**365 .625**} **x 8** = {**2925**} = Venus synod {**585**} x **5** = Mercury synod {**117**} x **25**.
Thus {**2925**} would be the Mayan Long Count style Venus Earth cycle.
MLC {**1872000**} **/ by** {**2925**} **= {640} cycles.**
Accounting with {**365 .625**} is easy as well:
16 x {**365 .625**} = {**5850**} = 10 Venus {**585**} synods.
For every **1000** year counts of {**365 .625**}, one would merely subtract **400** days.

MLC {**1872000**} **/ by** Jupiter {**4333 .33333**~} = Egyptian number {**432**}←--- Note.
{**432**} = {**6 .66666666**~} Ancient Pi x Royal Cubit.

Jupiter sidereal {**4333 .33333**~} = {**13**} x {**333 .33333**~},
Therefore since: **Ten** Egyptian Mars sidereal ={**6872 .72 72 72**~},
and{**6872 .72 72 72**~} **/ by** the **Royal Cubit** = {**333 .33333**~}, Thus one can say:
Jupiter sidereal = {**13**} x {**10 Egyptian Mars sidereal / by the Royal Cubit value**}.

11 x Mars {**687 .27 27 27**~} = T**en x** Khufu pyramid base {**756**} = {**7560**} = {**14 x 540**}.
Khufu pyramid height {**481 .09 09 09**~} **/ by** Mars {**687 .27 27 27**~} = {**7 / by 10**}.
Therefore in planetary harmonics: Saturn synod {**378**} **/ by** {**540**} = {**7 / by 10**},
Then: {**540**} x Sqrt. Ancient Phi {**1 .27 27 27**~} = Mars {**687 .27 27 27**~} sidereal.
{**540**} **/ by** Royal Cubit **Foot** value {**1.718 18 18 18**~} = **100 Ancient Pi.**
{**54**} **/ by** Royal Cubit {**20 .618 18 18 18**~} = {**0.833333**~} **Ancient Pi.**
{**540**} **/ by** Royal Cubit = {**10 Venus 585** synods **/ by 702**} x Ancient Pi.
{540} / by Venus synod {**585**} **= {12 / 13}.** 1000 Venus synods = {**1625 x 360**}.
Egyptians probably used the Venus synod as **585** just as the Mayans did..
Khufu base {**756**} **/ by** Venus synod{**585**} = {**mile 5280 / by 1300 Ancient Pi**}.

Ancient Calendar Count Number systems, from Part I, FAST TRACK Summary
Ancient civilizations spiritualized the mathematics of the planetary movements because these ancient cultures recognized the amazing harmonic relationships between the planets orbits and synodicals, and how that could be applied to pyramid geometry.
Ancient Pyramids from Egypt to the Meso American, Olmec and Mayan,
are all Time Pyramids, and they express in one way or another the planetary movements and also importantly the ancient mathematics. These cultures pyramids also have much more in their **Intent** than just the planetary timelines and expressions of ancient mathematics in cultural spiritualities. It is suspected that these pyramids, city grids and even multiple pyramid grids over large areas of land are laid out with powerful global resonance capacities which are now being both scientifically and spiritually explored.
However this research of mine focuses on the **Universal Harmonic Codes**,
and how the ancient mathematics are woven with planetary timelines and pyramid geometries that express the unique harmonic cycles of predominant number systems.
Ancient Calendar Count Systems are astronomical count vehicles.
The ancient cultures kept track of specifically, but not exclusively,
the first 6 planets movements**.** These planets have the Harmonic Cycles in relation to each other and thus were highly accountable for in the spiritual mathematics.
Astronomical count systems are not constricted to exact values for planet orbits [sidereal] or their synodicals, because these modern astronomical values are **averages** anyways.

The **Gregorian Calendar** created a hodge podge of months with 28, 30, and 31 days, which became a basic human labor calendar designed for western societies and religious controls instituted by the Vatican to erase the ancient mathematics and those spiritual connectivities to the Universal Harmonics from every day usage passed down by ancient civilizations, and this is the least harmonious or synchronous calendar in human history.

Ancient Sumerian and Egyptian calendar counts used a **360** day year. [**360 = 12 x 30**], with simply 5 extra days at the end of the year. One Egyptian count and measurement system is called the **Kemi** which is based on multiples of this **360** count, and this value is {**12960000**} = {**3600**}squared or {**360 x 36000**]}, or a base value is {**1296**}.
Ancient Mayans also had a **360** day **Haab** civic calendar with a **5** day Uayeb period at the end of the year as well. The Mayans also had a **Tzolkin Spiritual Calendarz;**
of 260 days = {**13 x 20**}**,** that worked directly with the **Mars** synod as**:**
Tzolkin 260 x **3** = **780** Mars synod,
and with the famous Mayan Long Count {**1872000**} **/ by** {**260**} Tzolkin = **7200**. This means that there are **7200** Tzolkin {**260**} day cycles in the Long Count that ends in **2012**.
The Mayan Long Count also incorporates the **360** count system:
MLC {**1872000**} **/ by 360** = {**5200**} cycles.
The Great Platonic Age of **25920** years = [**360 x 72**].
The Egyptian number constant, the **Kemi** = {**12960000**} = [**360 x 36000**].
Ancient Pi = {**22 / 7**}.
Ancient Pi x Square Root of Ancient Phi = 4 = {**22 / 7**} x {**1 .27 27 27 27 27**~}
Ancient Square Root of Phi is revealed from newly discovered Saqqara pyramid dimensions of Queen Sesheshet {as attributed by Zawi Hawass} of **14** meters high and a **22** meter square base, and basically the slope is thus arctangent of {**14 / 11**}.

{**14 / 11**} = {**1 .27 27 27 27 27** ~} = **Ancient Square Root Phi =**{**126 / 99**}.
Because this is the value that **determines the slope of the Khufu Pyramid,**
and as a replicating decimal originates from a replicating decimal number count system referred to as the {**99** = 11 x 9} ancient count system that creates these unique replicating decimals in such a fashion:
36 / 99 = [**0 .36 36 36 36** ~], **63 / 99** = [**0 .63 63 63 63** ~], and **14 / 99** = [**0 .14 14 14**~].

The base value of the **Egypt Kemi** is **1296** = [**18 x 72**] = [**24 x 54**] = [**9 x 144**]
Then: **1296** times {**Ancient Pi x Ancient Square Root Phi**} = **5184** = **72** squared.
1296 evolves the Egyptian number count systems using **Ancient Pi and Ancient Phi.**
Ancient Square Root of Phi {**14 / by 11**},
are also the dimensions of the Khufu Pyramid}, AND creates a slope for the pyramid Side Faces of {**51 .84 277**~} degrees, closely correlating the **5184** = **72** squared.

Ancient Pi number count systems are based on the replicating decimals of the number [**7**] or the "**sevenths**". **Ancient Pi** = {**22 / 7**} = [**3 .142857 142857 142857**~].
The replicating decimal {**0 .142857 142857 142857**~} = {**1 / 7**},
These decimals rotate with each "seventh", i.e. {**2 / 7**} = [**0 .285714 285714 285714**~].
Thus one of the discoveries I found in these Egyptian number systems using [**7**] and [**99**] based replicating decimal count vehicles are the Ancient Square Root Two's:
{**99 / by 70**} = {**1 .4 142857 142857 142857**~}, as primary Ancient Square Root Two
and {**140 / 99**} = {**1.4 14 14 14 14 14**~}, as secondary Ancient Square Root Two
in this **Ancient Pi** replicating decimal number count system of the "sevenths".

Therefore: {**1 .4 142857 142857 142857**} times {**1.4 14 14 14 14 14**~} = exactly **2.**
Therefore: {**2 .8 285714 285714 285714**~} times {**2 .8 28 28 28 28 28**~} = exactly **8.**
Egyptian Calendar Count **360 / by** {**1 .27 27 27 27**~}= {**282 .857142 857142 857142**~},
and that is exactly **200** x primary Ancient Square Root Two.

Primary **Ancient Sqrt** [**2**] divided by Ancient Square Root Phi = {**1 .111111**~} = [**10 / 9**]
This now will translate mathematically right back the Mayan Long Count system related to the [**13**] count, and Egyptian base Kemi **1296**:
MLC {**1872000**} / by {**1 .1111111**~} = [**1296 x 1300**]
This creates a fundamental ratio between the two important cultural mathematics systems and can be seen in base numbers as: {**1872 / 1296**} = {**1 .4444444**~} = [**13 / 9**].
Thus **Tzolkin 260** divided by {**1 .4444444**~} = [**180**]
And [**180**] = **100**{**primary Ancient Sqrt 2**} x **Ancient Square Root Phi.**
This lengthy exercise is a simple basis for the reader to begin to acclimate to the complexities of these Ancient Harmonic Codes to be further presented.

Calendar counts are easily adjustable to account for any discrepancies as exhibited by the Earth year and the ancient cultures knew how to adjust these timelines extremely accurately, with the Mayans accounting for all planetary movements to within a day in 26,000 years. The Gregorian calendar accommodated it's own calendar systems to enforce religious adherence to Christianity, and away from the ancient spiritualities that were directly connected to the Mathematical Harmony of planetary movements.

The **M**ayan **L**ong **C**ount uses a spiritual based astronomical system with **13** B**aktuns.**
Mayan Long Count = MLC 1872000 = **13** x {**144,000**}.
And due to this alignment of count system numbers with the [**13**],
the Venus synod is mathematically realigned to {**585**} because then that value for the Venus synod has a harmonic cycle with the other planets in the Mayan **L**ong **C**ount:
MLC 1872000 / by {**585**} **V**enus synod =**3200**, and thus {**585**} = [13 x 45] = [9 x 65]
MLC 1872000 / by {**780**} **M**ars synod = **2400**, and thus {**780**} = [13 x 60] = [12 x 65]
and so the Mars and Venus synods then align as: {**585**} V **/ by {780**} M = {**3 / 4**}.
This means that there are exactly **3200** Venus synods in the great Mayan Long Count,
and this clearly shows a mathematical system based on Harmonic Cycles.

A very important Egyptian count number is {**486**} = [**9 x 54**],
and the number **54** relates to the **Saturn Synod** {**378**} = [**7 x 54**],
and the Saturn Synod {**378**} is exactly HALF the Khufu Pyramid base of {**756**} feet.
As a ratio {**486 / by 378**} = [**9 / 7**],
and **486** x the Khufu Constant = the {**585**} Venus synod. {see Khufu Constant section}

The **Mercury synod to Earth** is also realigned from the NASA 116 days average
to {**117**} days in Mayan Long Count as well.
This then aligns with Venus synod **585**= **5** x {**117**} Mercury synod, {**117**} = {**9 x 13**}.
The Mercury synod then aligns with the Mayan Dresden Codex {**702**} = {**6 x 117**}.
Tzolkin {**260**} **/ by** {**117**} Mercury synod =[**2 .22222**~]= Ancient Pi / by Ancient Sqrt[**2**].
The Mercury synod itself varies by as much as 5 days, and modern values are averages.
The Mayan Long Count with the Venus and Mercury synods creates unique Harmonic
Cycles to be inclusive of the Venus sidereal and designated as such for accounting:
25 x {**117**} Mercury synod = {**2925**} = **5 x** {**585**} Venus synod,
then with the Mayan Long Count {**1872000**} **/ by** {**2925**} = **640** cycles of that cycle.
Also note that during these synodical cycles of {**2925**} days, the Venus sidereal aligns
perfectly into the cycle as: **13** x {**225**} Venus sidereal = {**2925**} days.

My work on the **Mars Pentad** mounds tetrahedral grid revealing a "Cosmic **13** Calendar"
for the first 6 planets, **aligns** with the Mayan Tzolkin [**260 = 13 x 20**] Spiritual calendar,
and the Mayan Long Count **1872000 exactly** in those planetary calendar count systems.
The Mayan count systems and the Egyptian count systems have distinct connectivities
in Harmonic Cycles, and this will be reviewed through the following text of this work.
Simple examples of this can be shown with **the important Egyptian number**:
{**5184**} ={**72**} squared = {**4 x Kemi** base value **1296**},
as this value of **5184** correlates to the Khufu Pyramid slope of [**51 .84** 277~],
and used here with the Jupiter sidereal in astronomical count systems:
Standard western astronomical solar orbit [sidereal] of Jupiter is **4332 .587** days.
But in the **Mayan Long Count** that value is {**4333 .333333**~}days = **13 x {333 .33333**~}.
Thus this value connects directly into Egyptian count system like this:
MLC 1872000 / by {**4333 .333333**~} = **432** = {**360**} x [**1.2**].
Or that **432** value as **4320** is known in the Egyptian count system as **4320** ={**12 x 360**},
and then the aforementioned important Egyptian number **5184 / by 4320** = [**1 .2**].
Later in this document the value [**1.2**] is also shown as {Universal **Pi / by Phi squared}**.

Correlating the Harmonic Cycles between important Mayan and Egyptian counts:
Mayan Long Count {**1872000**} **/ by** Dresden Codex {**702**} = {**2666. 66666**~},
and the Egypt Kemi {**12960000**} **/ by** {**2666 .66666**~} = {**4860**} = {**90 x 54**}.
Egyptian number {**5184**} divided by above result {**4860**} = [16 / 15].

Kemi 1296 / by 702 Dresden Codex astronomical constant= {24 / 13}

{24 x **54**} = {1296}, and {13 x **54**} = {702}.
And {**7** x **54**} = {**378**} Saturn Synod or 378 is half the Khufu Pyramid base in feet,
thus to get the height of the Khufu Pyramid, **378 x Sqrt Ancient Phi =** {**481 .09 90 09**~}.

The {**585**} Venus synod **/ by** Mayan Dresden Codex {**702**} = {**0 .8333333**~}.
This value is excruciatingly close to modern {**Phi squared / by Pi**} = {**0 .8333**461~}.
In Part 1 of this pdf, Pi is reformulated as **Universal Harmonic Pi** to accommodate this:
{**585**} Venus synod **/ by** Mayan Dresden Codex {**702**}= {**0 .833333**~}= {**Phi sq. / by Pi**}
Harmonic cycle of number systems then align uniquely:
{**585**} Venus synod **/ by** {**702**} = [**0 .833333**~],
then [**0 .833333**~] x Jupiter sidereal {**4333 .33333**~} = {**3611 .11111**~}
MLC 1872000 / by Egyptian number {**5184**} = {**361 .111111**~},
thus the harmonic cycles are exactly multiples of **10**, using the exact same numbers.

The **Mayan Dresden Codex** is the highly important astronomical constant related to
Mars of **702** days, and in relation to the **Mars synod** as well:
[**9 x 78**] = Mayan Dresden Codex {**70**2} = {**13 x 54**} = [**36 x 19.5**]
[**10 x 7**8] = {**780**} Mars synod = {**13 x 60**} = {**12 x 65**} =[**40 x 19.5**]
The {**19.5**} values just shown correlate the predominant Mars Pentad mounds
tetrahedral grid angle of {**19.5**} degrees as a key count number in the calendar system,
and this value as {**195**} is numerator in the important ancient **Khufu Constant**.
The Venus synod **585** = {**3 x 195**} or {**30 x 19.5**}. Mercury synod **117** = {**6 x 19.5**}.
The Jupiter sidereal {**4333 .3333**~} **/ by** {**195**} = [**22 .22222**~] = [**10aPi / ancient Sqrt2**}
The Khufu Constant = {**195**} **/ by** {**162**}, and **162** = [**3 x 6 x 9**], and this value is later
defined as **Ancient Calendar Count Phi =** {**1 .62**} which works with modern Sqrt [**2**],
as more directly do the Mayan Long Count and Mars Pentad Calendar Systems.
Square Root {**1 .62**} **/ by** {**9**} = Modern Square Root [**2**] **/ by** {**10**}.
Tzolkin **260 / by** The Khufu Constant = Egyptian number {**216**} = [4 x 54] = [9 x 24]

In actuality we have **52** weeks each year of **7** days each, to equal {**364**} days,
and not [**365 .25**] days currently experienced on Earth.
Many ancient cultures also used a lunar style calendar in relation to the [**13**] full moons
per year that we experience. Thus an **"Earth Lunar Year" variation** could also be:
the **13** months of each year times a **28** day, **4** week month to equal {**364**} = [**13 x 28**].
[**364**] is an important Pascal Triangle number attached directly to Pascal number [**286**].
[**364**] divided by Ancient Square Root Phi {1 .27 27 27~}= Pascal Triangle number [**286**]
Mayan Long Count **1872000 / by** {**364**} = [**36000 / by 7**].
10{**Ancient Pi**} x {**364**}= {**11440**} = **44** x **260** Tzolkin spiritual calendar count.
If you had **1000** Earth Year Counts of {**364}** to equal {**364,000**}, then you would have
exactly **84** total Jupiter sidereal in that cycle: {**364,000**} **/ by** {**4333 .33333**~} = **84**.

Infinite replicating decimals are also represented by fractions of the number [**9**],
and create magic in Universal Harmonic Codes.
The number [**9**] is the ultimate number in the universe.
[**1 / 9**] = [**0 .1111111**~],
[**10 / 9**] = [**1 .1111111**~] = **Ancient Square Root Two divided by Ancient Sqrt. Phi**

[2 / 9] = [0 .2222222~]
and [**0 .2222222**~] times **secondary Ancient Square Root Two** = {**Ancient Pi / 10**}

[**3 / 9**] **=** [**0 .3333333**~] = the sine of tetrahedral [**19 .47122063**] degrees.
[**3 / 9**] **=** [**0 .3333333**~], and [**0 .3333333**~] squared = [**0 .1111111**~]
[**4 / 9**] = [**0.444444**~], and [**0 .444444**~] x [**585**] Venus synod = [**260**] Tzolkin
[**5 / 9**] = [**0 .555555**~], and the inverse of [**0 .555555**~] = [**1 .8**],
and [**1 .8**] = **Ancient Square Root Phi TIMES Ancient Square Root** [**2**].
[**6 / 9**] = [**0 .666666**~], and [**0 .666666**~] squared = [**0 .4444444**~] = [**4 / 9**]
[**8 / 9**] = [**0 .888888**~], the square root of [**0 .88888**~] = cosine tetrahedral {**19 .47122~**}

Now the most fantastic aspect of the relationship between the number [**9**]
and **the Ancient Pi** based number count system value [**7**] and the "sevenths",
is the fraction of [**7 / 9**].
[7 / 9] = {**0 .7777777**~}, and [7 / 9] is the **one and only** of the Ninth fractions
that has **an inverse of another replicating decimal**:
The inverse {0 .7777777~} = {**1 .285714 285714 285714**~} = [9 / 7].
This is a reason why the ancient number count system of Ancient Pi is so powerful:
Ancient Pi = **aPi** = {**3 .142857 142857 142857**~},
with the replicating decimal sequences of the "sevenths" in multiplications,
also has an inverse of {**0 .318 318 318**~} correlating to the 99 count system
replicating decimals such as {**99 / 63**} = **Ancient Pi / 2** = {**1 .571428 571428 5781428**~}.
The Mercury sidereal of **88 days:**
10 Mercury sidereal [**880**] **/ by Ancient Pi = 280** Royal Cubits Khufu Pyramid height..

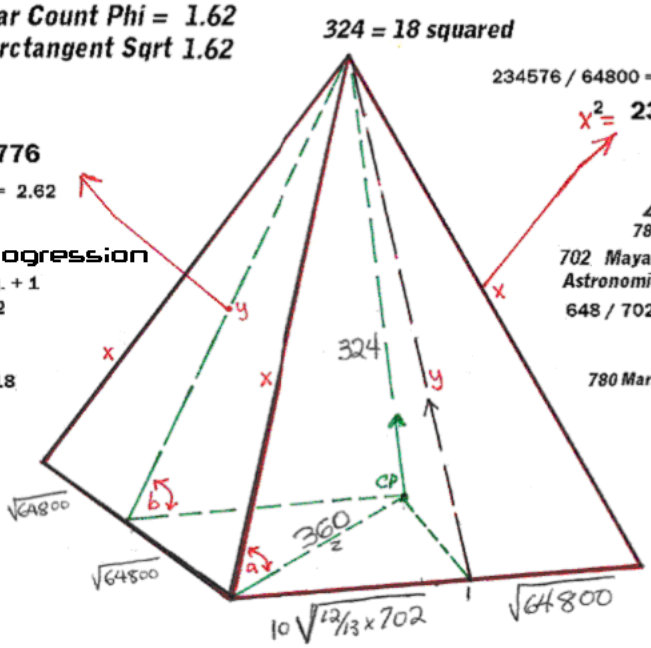
9 x Ancient Pi = {**28 .285714 285714 285714**~} which is immediately recognizable:
{**28 .285714 285714 285714**~} times {**28 .28 28 28 28 28**~} = **800** exact.

So these 5 pages are **FAST TRACK SUMMARY** for the reader to quickly acclimate
a basic understanding of **The Universal Harmonic Codes** and how they emanate from
the ancient cultural mathematics systems and the applications of those systems to the
planetary timelines, and how this ancient math was quite advanced and exotic.
The Egyptians and Mayans studied their astronomies meticulously and applied these
planetary movements and number count systems into expressions of Pyramid geometries.
Much more will follow to augment this summary to include the **Khufu Constant**,
The Teotihuacan Grids, **The Masonic Codes**, **The Solfeggio Synchronicities**,
and **Ancient Calendar Count Phi** = {**1.62**} or {**162**} = [**3 x 6 x 9**]:
with it's applications to calendar:
Kemi **12960000** divided by {**162**} = {**80,000}**,
Square Root{**162**} divided by [**9**] = **modern Square Root Two**!

Ancient Calendar Count Phi Time Pyramid
360 day Calendar Count

aPhi = Ancient Calendar Count Phi = 1.62
Side Face Slope arctangent Sqrt 1.62

Calendar Count Phi



Calendar Count Phi progression

aPhi —>aPhi sq.—>aPhi sq. + 1
1 .62——> 2 .62———>3 .62

1 . 618 = 3 .618 / sqrt5]
1 .618— > 2. .618—> 3 .618
1 .618 +1 = 2 .618, + 1 = 3 .618

q = 42°, 41.987
b = 51.84°, 51.844, 72sq. = 5184

b = 51.84°, 51.844, 72sq. = 5184

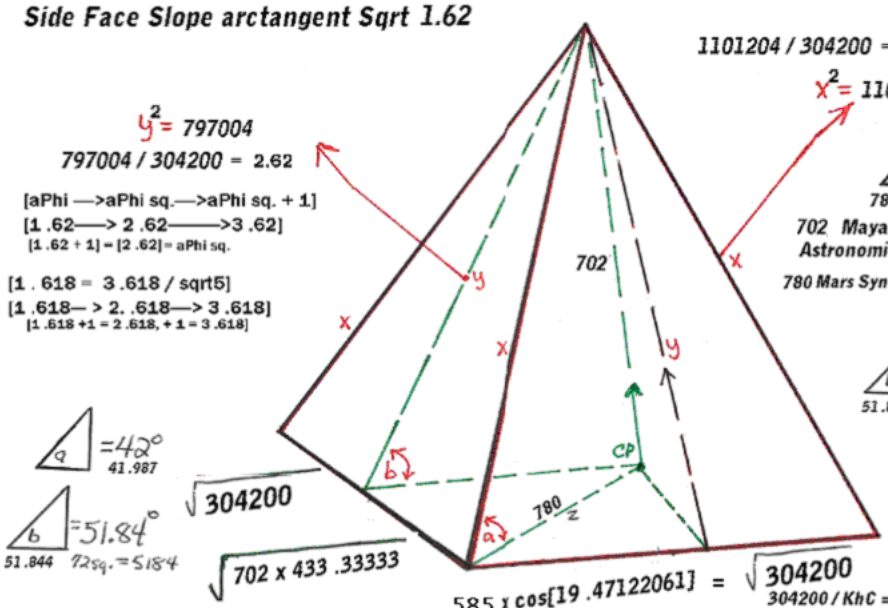
√259200

25920 = 72 x 360

648 x 2 = 1296 then x 2 = 2592 x 2 = 5184 = 72 squared

Ancient Calendar Count Phi Time Pyramid
Mayan Dresden Codex 702 and Mars Synod 780

aPhi = Ancient Calendar Count Phi = 1.62
Side Face Slope arctangent Sqrt 1.62



[aPhi —>aPhi sq.—>aPhi sq. + 1]
[1 .62——> 2 .62———>3 .62]
[1 .62 + 1] = [2 .62] = aPhi sq.

[1 . 618 = 3 .618 / sqrt5]
[1 .618— > 2. .618—> 3 .618]
[1 .618 +1 = 2 .618, + 1 = 3 .618]

q = 42°, 41.987
b = 51.84°, 51.844, 72sq. = 5184

b = 51.84°, 51.844, 72sq. = 5184

304200 / KhC = 25720 = 360 x 702
KhC = Khufu Constant = 195 / 162

702 / aPhi = 433 .3333
13 x 333 .33333-- = Jupiter sidereal 4333 .33333--
Venus synod

√1216800

1216800 / by KhC = 1296 x 780
Khufu Constant = KhC = 195 / 162

1216800 = 2 x 780 x 780
1216800 = 32 x 195sq

304200 = 390 x 780 Mars synod

Reviewing this table of planetary values is recommended.
These are planetary sidereal [orbits] and synods of the first six planets that conform to a perfect harmonic cycle developed by the **tetrahedral grid of the actual Mars Pentad Mounds** into a complete astronomical calendar based on the constant value [**13**], found in the **Tzolkin** [**260**] = [**13**] x [20], **and the Mayan Long Count or MLC** [**1872000**] **=** [**13**] **x** [**144,000**]

Mars Pentad Mounds Tetrahedral Grid Calendar Count Values

The Planetary Sidereal and Synods in the 13 Cosmic Calendar

[13 x 20] = [260] Tzolkin, then x [3] = [780] Mars synod = 20 x [39] = 40 x [19 .5] = [13 x 60]

Mars synod to Earth = [780], and the Venus synod to Earth = [585] = 30 x [19 .5]
Thus as a ratio, [780 / **by** 585] = [**4 / 3**] = [1 .333333~] = Khafre slope tangent!
The Mars synod of [780] days thus aligns with Venus in a [13] Cosmic Calendar.
780 Mars synod = [12 x 65] and [13 x 60], and [780 / by 9] = [86 .6666~] or [2 x 43.33333~].
585 Venus synod = [9 x 65] and [13 x 45].
117 day Mercury synod = [13 x 9], then [117 x 5], = [585] Venus synod.
Venus sidereal is [225] days = **[9 x 25]** and **[5 x 45],** and [13 x Sqrt3] x [10] as an approximation**.**

Mayan Dresden Codex 702 = [9 x 78], = [13 x 54], = [19.5 x 36], = [26 x 27], = [12 x 58.5]
780 Mars / by Dresden Codex 702 ={**1 .11111**~},and {**1 .11111**~} **squared** = tangent Menkaure slope.
Mayan Long Count {**1872000**} **/ by** [**780**] **Mars synod = 2400**
Mayan Dresden Codex {**702**} **/ by The** [**585**] **Venus synod =** [**1.2**] = [**Pi / by Phi squared**]
Mayan Long Count {**1872000**} **/ by** Venus [**585**] synod = **3200**
Mayan Dresden Codex {**702**} **/ by** [**117**] **Mercury synod = 6**
Mayan Long Count **{1872000**} **/ by** [**117**] **Mercury synod = 16,000**

The Jupiter sidereal thus = {**13 x 333 .333333**~} = [**4333 .33333**~]
Mayan Long Count [**1872000**] **/ by** [**4333 .33333**~] = [**432**] **and Egyptian value** [**4320**] = [**12 x 360**]
Jupiter sidereal is [13] x [333 .33333] = [**4333 .33333**] = [**19 .5**] x [**222. 22222~**] a multiple of [2 / 9].

Jupiter sidereal {**4333 .33333~**} **/ by 9** = {**481. 481 481**~}
which is a direct decimal variant of [**260 / 540**] = {**0 .481 481 481**~}
with **260** as the **Tzolkin** and **540** being the total degrees in the **pentagon**.
Saturn uses modern Pi as a calculative constant with all the Pentad planetary mathematics.
Saturn sidereal {**10759**} **/ by 13 =** {**827.6153846**}, **then x Pi =** {**2600**} **or ten times the Tzolkin 260!**
Note: The Saturn synod of [**378**] = [1.05] x [360], and [378] is an Aztec calendar function number.
The Mayan Dresden Codex [**702**] divided by the Saturn Synod [**378**] = [**13 / 7**] as a ratio.

In Mayan glyphs for Mars is found an astronomical count for [**819**]**.**
This count of [**819**] = [**21**] **x** [**39**], in relation to the Mars synod of [**780**] = [**20 x 39**].
It is this authors speculation that the [**819**] is a count value ascribed to the Mars synod with Jupiter.
Thus the known Mars synod of [**816.5**] days may be a calibration to [**819**] = [**13 x 63**] **and** [**9 x 91**].

Now notice on the [**819**] = [**9 x 91**], in relation to a Pentad tetrahedral grid **Earth sidereal**.
Coincident with Earth would be the [**91**] number value.
Earth=[**13** x **28**] =[**364**]= [**4** x **91**]**,** note that an Olmec pyramid has 4 sets of 91 steps and top platform 365.

Thus Mayan Glyph [**819**] **/ by Earth** [**364**] = [**2 .25**]
and [**2 .25**] is a decimal variant of the Venus sidereal of {**225**} days.

Earth "Lunar Year" [**364**] divided by Venus [**225**] = [**1 .6177777**~] = almost exact modern Phi.

Earth can be defined as an **Earth "Lunar Year" of the** [**13**] **full moons x** [**28**] **=** [**364**],
and the [**7** days times **4** weeks] = **28** day month,
and [**7** x **52** weeks] for a lunar style calendar thus = [**364**]:
AND importantly also [**14 x 260 Tzolkin**] = [**3640**] in count strategy.
This is important with the [**14 x 26**] = [**364**] because as mentioned earlier [**14**] = {**10phi**} **x** [**e**]**, then / Pi**.
Obviously the [**26**] in the equations correlates the [**260**] Tzolkin, as well as [**52**] x 5 = [**260**].

Mars sidereal is [687] in standard western astronomy, and I used [**689**] **=** [**13**] **x** [**53**] in the calendar count system, calculated by virtue of the [**53**] being equal to [**2**] x [**26.5**] degree replicating angle in the original Mars Pentad study by Horace Crater. With [**53**] essentially equaling [**19.5**] **x** math constant [**e**], and [**19.5**] being an important Pentad angle. The Mars Pentad Angles are rounded to [**19.5**] and [**26.5**] because that is how the numbers themselves operate in the calendar count systems as **195 and 265**, example: **Tzolkin 260 x 265 = 68900 = 100 x 689.** This aligned all the planetary systems to number **13**.

[**19.5**] which also works in Egyptian counts by virtue of the Khufu constant with the numerator **195**.
Note: Mayan Dresden Codex **702 / by 360** day Ancient Calendar Count systems = [**1.95**].
Note: Mayan Long Count **1872000 / by** [**19 .5**] = [**96,000**].

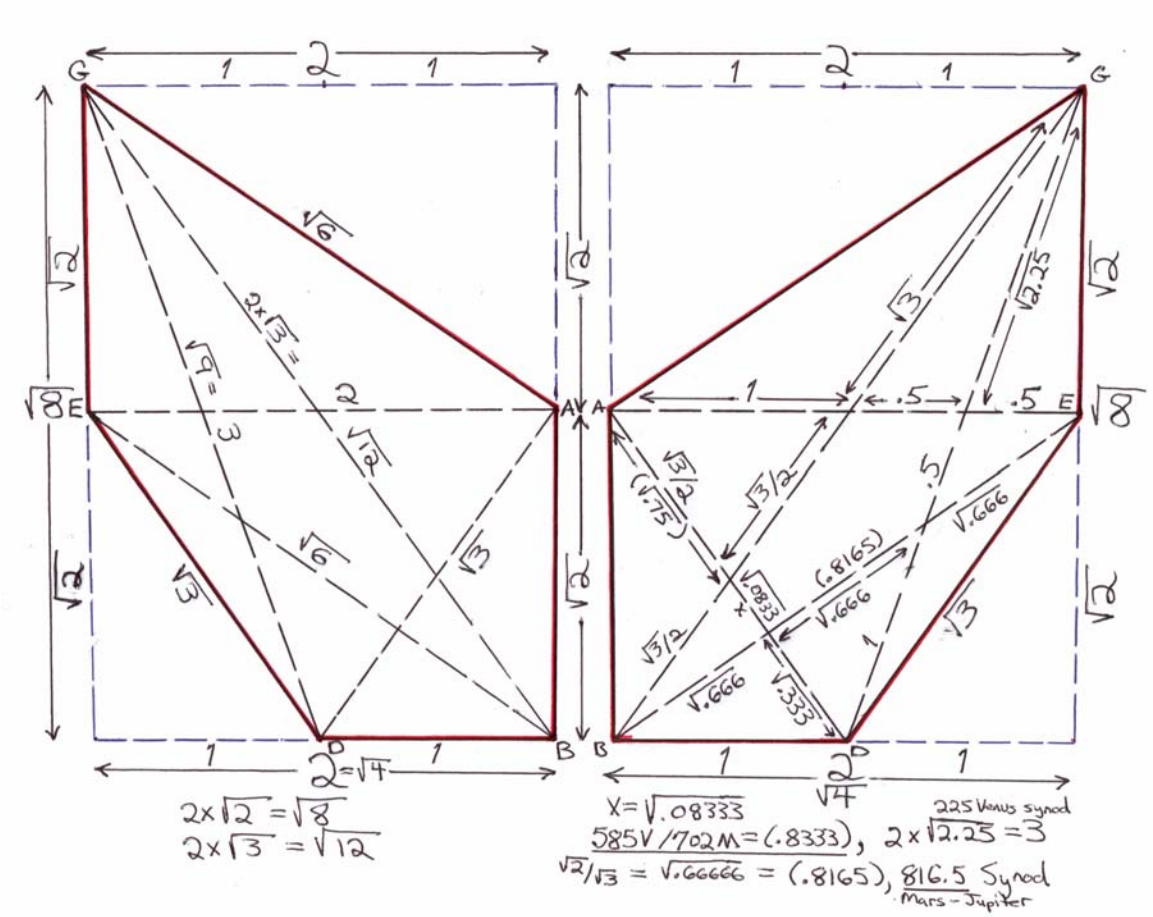
These examples have extreme harmonic convergence:
In decimal variations of the Mars Pentad Angle number value [**26.5**] are synchronicities as such which are equations in extreme convergence but not exact:
Sqrt. [**265**,000] = Earth Lunar Year [**364**] times Square Root [**2**]**,**
The exact value would **be S**qrt [264, 992], and this is an error factor of 3 / 100,000.
AND! Sqrt [**26,5**00] times Sqrt[5] = Earth Lunar Year [**364],** exact at [364 .0055]
[**26,5**00] / by [364] = Sqrt of [**5300**], aligning as [**53**] x [13] = [689] Mars sidereal in the [13] Calendar.

One must READ: Dr. Horace Crater's Mars Pentad study
Mounds of Cydonia, Case Study for Planetary SETI
http://spsr.utsi.edu/articles/jbis2007.pdf

NOTE:
Numbers as such: [**0 .83333**~] **or** [**4333 .3333**~], with [~] **are meant that the decimal goes to infinity**, or in numbers that have irrelevant decimal endings after a certain point such as true Pi = [3. 141562654~].
Ancient Pi has a repeating decimal sequence [**3 .142857 14 2857 142857**~].
NOTE:
When using a calculator following the math you MUST use the full extent of the replicating decimals: [**0. 8333**~] **is wrong,** [**0 .8333333333333**~] **is how you operate equations!**

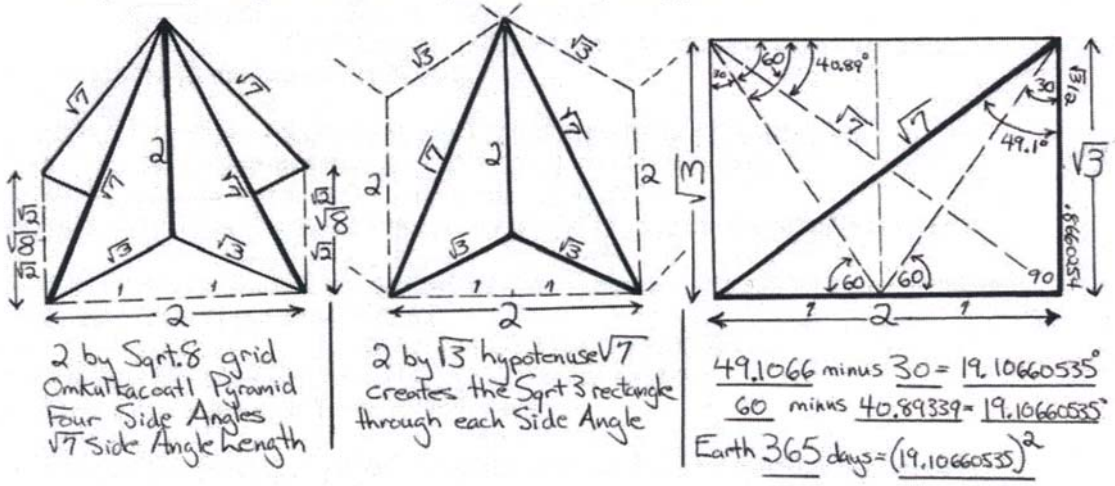
The Mayan Dresden Codex [**702**] **explained in math reviews:**
Highly suggested reference links to aid the reader in this document: The Dresden Codex Mars [702]:
http://www.sciencenews.org/articles/20010310/mathtrek.asp
http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=29390

The Mars Pentad Mounds E A B D G as a tetrahedral grid on the left:

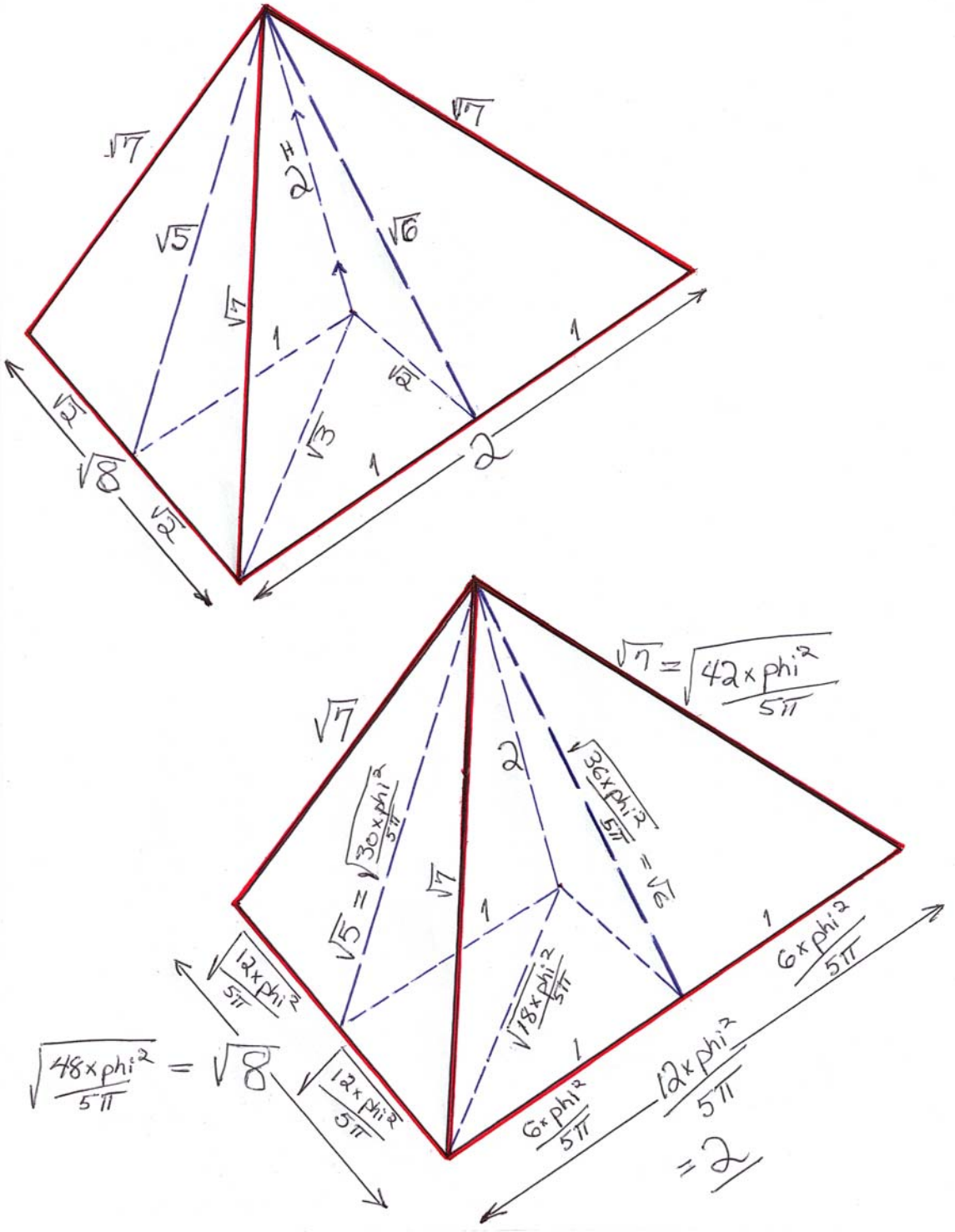


Below, is the above rectangular grid as a pyramid with a height of [2] units from the center point, and the Earth Year is found in the Side Angles of the Pyramid.

The Pyramid Side Angles themselves form the Sqrt3 rectangle
as an emerging form through the Side Angles!
This is shown as the triangle [2] by Sqrt [3] by hypotenuse sqrt [7],
which produces a [49] degree angle coinciding as [7 x 7] = [49].
The [sqrt3 by 2] rectangle has four [30-60-90] triangles within it's structure!
This brings hexagonal geometries into play as well by this pyramid.



This is a diagram from the first Mars Pentad Time Pyramids publication,
and this shows the tetrahedral grid of the Mars pentad landforms as the base of a pyramid that is [**2**] units high. This resultant pyramid expresses all the square roots as lengths in the Side Faces and Side Corner Angles. Thus with **Universal Harmonic Pi** applied as Pi, each and every square root in mathematics can be fundamentally expressed as a function of Phi and Pi in harmonic cycle. Using modern Pi, results will be off by {1.5 / 100,000}.



Universal Harmonic Pi and Mars Pentad mounds dynamics in Ancient Phi

{**0 .8333333**~} = modern **Phi squared / by uPi,** and Universal Harmonic Pi = **uPi**.
Sqrt {**0 .0833333**~} is the smallest cross sectional length in the Mars Pentad landforms tetrahedral grid. It can express all other lengths between the mounds positions in the grid:
Sqrt{**0 .0833333**~} x Sqrt {**72**}= Sqrt{**6**} = mounds GA,
and Sqrt {**0 .083333**~} x Sqrt {**24**} = Sqrt {**2**} = mounds EG, and AB.
See first Mars Pentad Time Pyramids Macrocosmic calendar pdf.

An important and interesting progression with Sqrt {**0 .08333333**~}
results from applications in the above equations and {uPi}:

One can move through each integer of **1 to 100**,
and use a formula as such:
Integer {**a**} **/ by Sqrt.**{**0 .0833333**~} = {**x**}, then {**x**} **squared** = the progressional value.
Examples:
{**9**} **/ by** Sqrt {**0 .0833333**~} = {**x**}, then {**x**} sq. = Egyptian number {**972**} = {**18 x 54**}**,**
{**972**} **x Khafre slope tangent** {**1 .333333~**} **= Kemi base value** {**1296**}.

{**12**} **/ by** Sqrt {**0 .0833333**~}= {**x**}, then {**x**}sq. = Egyptian number {**1728**} = {**32 x 54**},
{**1728**} = Kemi base value {**1296**} x Khafre tangent {**1 .333333**~}.

The purpose of the examples above is to lead to an extremely **unusual number anomaly**:
Using the number {**19**} in the above equation process:
{**19**} **/ by** Sqrt {**0 .0833333**~} = {**x**},
then {x} squared = {**4332**},
and that value of {**4332**} is the exact NASA Jupiter sidereal!
The sun has {**19**}Metonic cycles.
{**19**} is the "outlier" in Dr Horace Crater's Mars Pentad replicating geometry analysis.
Then:
{**19**} x Egyptian Ancient Phi {**1 .619834711**~} = tangent of {**72**} degrees x **10**.
The two above respective values are: {**30 .7768 5951**} and {**30 .7768 3557**},
{**19**} x Egyptian Ancient Phi{**1 .619834711**~} **/ by 10** = tangent{**72 .0000** 1321} degrees.
This is important as "**Convergence Dynamics**" between modern and ancient Phi values,
Since pentagonal {**72**} degrees has elements of true Phi:
Tangent {**72**} **/ by Phi** = Sqrt {**3 .618033989**}, and {3 .618033989} = Sqrt 5 x Phi.
Other Notes:
Solfeggio {**528**} **/ by** Great Platonic Age {**25920**} = {**0 .203 703 703 703**~}←--note:
That replicating decimal is the Khufu Constant decimal in {**195 / by 162** = KhC}.
Great Platonic Age {**25920**} **/ by** Mars {**687 .27 27 27**~} = Solfeggio {**528**} **/ by** {**14**},
Great Platonic Age {**25920**} **/ by** Mars {**687 .27 27 27**~} = the mile **5280 / by 140**.
{**44 / by Ancient Pi**} ={**14**},
and in **Convergence Dynamics** between modern and ancient mathematics:
{**14**} = **10 modern Phi x** {**e**}, then divided by modern **Pi**, or you can use {**uPi**}.
Factor of error = 9 / 1,000,000.

Part 1

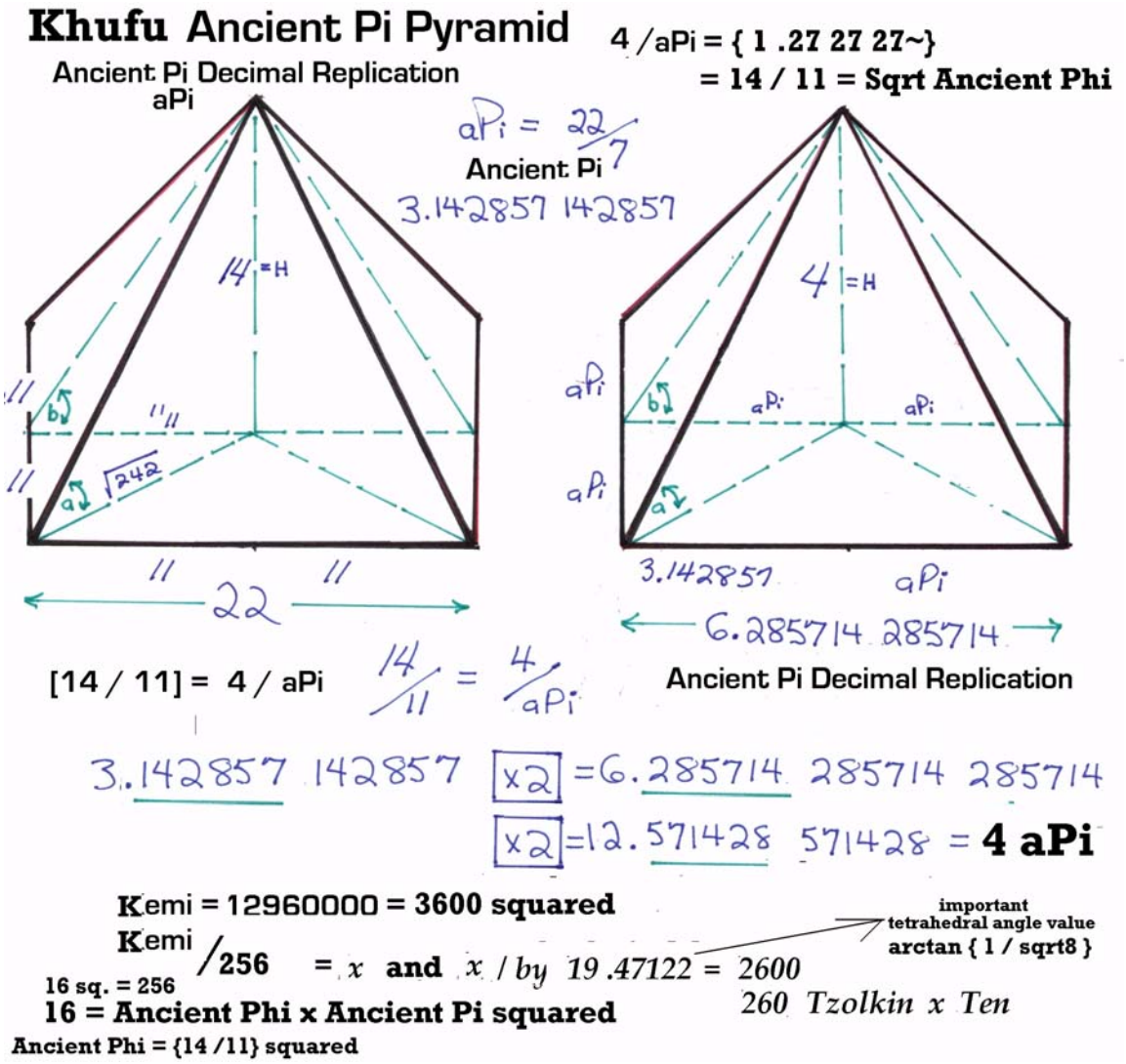
The Khufu Pyramid
The Royal Cubit

Khufu Pyramid Diagrams
Comparing Historic Giza Pyramid Measurement values:
Petrie, Coles, Lehner, and Edwards.
The Flinders Petrie Conundrum
The Royal Cubit 20 .618 18 18 18~ and the Khufu Pyramid
Masonic Code and Ancient Pi
The Venus Mars Synod in the Khufu Pyramid
The Royal Cubit and Ancient Pi and Kemi 1296 Count Systems
The Ancient Egyptian Mars Sidereal = {687 .27 27 27 27 27~}
Alternative Pyramid Designs with Khufu geometry
New Replicating Decimal sets with alternate Ancient Pi "sevenths"
{with recombinated six digit sequences}
Jupiter Earth synod NASA {399} and Ancient Calendar Count {400}
Recatangular Base Khufu Pyramids and Experimental Designs

This first pyramid diagram shows the basic Khufu pyramid geometry from a comparison standpoint using the Pi formula equation for pyramid slope:
{**4 / by Ancient Pi**} = {**14 / 11**} = {**1 .27 27 27 27~**} = {**126 / 99**} ←--note the [126},
where {**126**} x **3** = Saturn synod {**378**},
which is half the Khufu pyramid base of **756** ft.
The above Pi equation creates what I call the **Square Root of Ancient Egyptian Phi** because in the Ancient Pi system of Egyptian cosmologies {**14 / 11**} is the value that one takes the arctangent of, to find the slope of the Khufu pyramid slope.
{**14 / by 11**} = {**1 .27 27 27 27~**} = the tangent of {51 .84277341~} degrees.

{**4 / by Ancient Pi**} = **Sqrt. of Egyptian Ancient Phi** = {**14 / 11**} = {**1 .27 27 27 27~**}

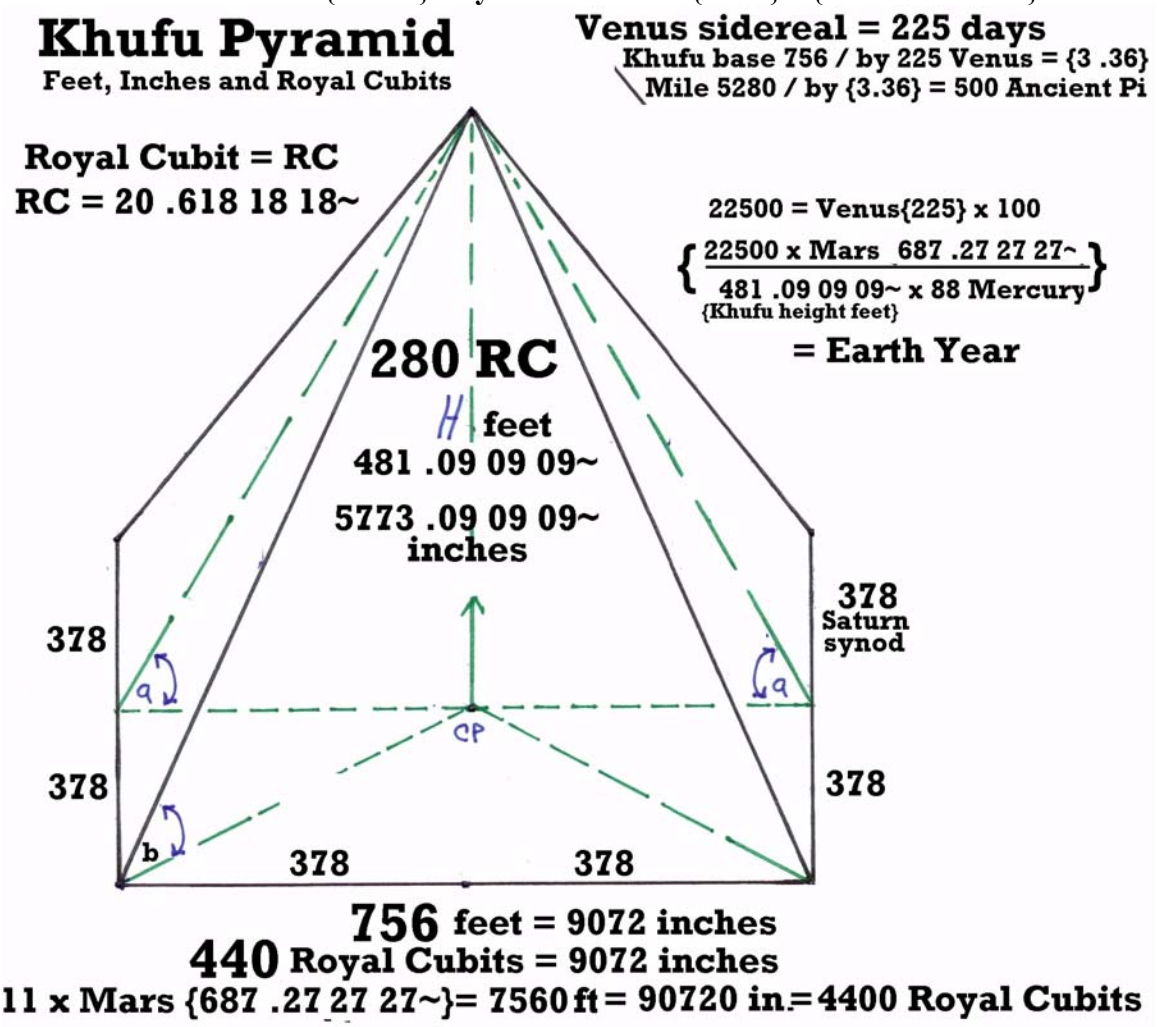
The pyramid on the left and right BOTH have Khufu pyramid geometry exact.
The pyramid on the right is displayed to show how Ancient Pi works in the geometry, and how Ancient Pi replicating decimal systems operate with a sequential change in position of the replicating decimals of the "sevenths" as Ancient Pi = {**22 / 7**} = {**aPi**}.



Khufu Pyramid geometry and dimensions:

The Earth Year and Mars sidereal found in the Khufu pyramid.

The Ancient Egyptian Mars sidereal is a planetary calendar count system value integrated into Khufu pyramid geometry. It simply is **11 x** {**687 .27 27 27**~} = **7560**, and **7560** is ten times the Khufu base. The Mars sidereal also is found using the value for the Sqrt. of Ancient Phi {**14 / 11**} = {**1 .27 27 27 27**~}**:**
540 x {**1 .27 27 27 27**~} = {**687 .27 27 2727**~},
540 / by the **Royal Cubit Foot** {**1 .718 18 18 18**~} = ***100 Ancient Pi***.
The Royal Cubit foot **x 12 inches** = {**20 .618 18 18**~} inches = the **Royal Cubit = RC**.
Note:Khufu base **756 ft x 4** sides = **3024** feet, then x **12** = {**36288**} total perimeter inches.
Total Khufu base inches {**36288**} / **by** the mile value {**5280**}= {**6 .87 27 27 27**~}**!**



The Earth year is found using the calendar count Venus sidereal of {**225**} days, and the Mercury sidereal of {**88**} days and the **Khufu pyramid height**.
ALL ancient cultures calendar count the Venus sidereal at **225** days, and Mercury at **88**.
By multiplying {**Venus sidereal 225 x 100**}, the floating decimal system is optimized to attain an exact Earth year with proper decimal placement. This equation proves that the planetary timelines are incorporated into Khufu pyramid geometry.
In this case the Earth Year calculates to: {**365. 25 97402**}days, within minutes of exact.

Comparing Historic Giza Pyramid Measurement values:

Petrie, Coles, Lehner, and Edwards.

Khufu Pyramid

Actual Pyramid dimensions: Base **756** feet square = **9072** inches per side = **36288** total Height **481 .09 09 09**~ feet = Saturn synod **378** x {**14 / 11**}.

Khufu Height / by Khufu Base = {**2 / by Ancient Pi**}.

Coles was Petrie's immediate Egyptian government sanctioned contemporary in 1925. Coles used Petrie's exact criteria to measure with, and came up with different results. Note that Petrie's and Coles numbers are quite different per each individual side. Petrie's North and South sides are actually only $1/10^{th}$ inch difference.

Petrie mean: **9068.8** inches per side. Height **481 .333 feet, + or – 7** inches ←--note!
Coles mean: **9069.4** inches per side.

Petrie: North **755 .783333** ft. Coles: **755 .425** feet, ……. **under Petrie by 4.3 inches**!
Petrie: South **755. 791666** ft. Coles: **756.08333** feet ……. over Petrie by 3.5 inches.
Petrie: East **755. 641666** ft. Coles: **755.875** feet, …….. over Petrie by 2.8 inches.
Petrie: West **755. 71666** ft. Coles: **755.7666** feet, ……. over by Petrie {0.6} inches.

Mark Lehner Base: 230.33 meters square = **755.6758542** feet with a square base, Height: 146.59 meters = **480.9383209** feet. {metric conversion factor 3.2808399}.
Lehner's measurements are slightly short on all the pyramids he measured.

I E S Edwards: **756** feet square base, with a Height: **481.4** feet.

Khafre Pyramid

Petrie: Mean average: **706.241666** ft.
North: **705.99166** ft. South: **706.40833** ft. East: **706.2666** ft. West: **706.291666** ft.
Height: **472** feet, + or – 13 inches.←---note, over a foot of error factor.

Mark Lehner: 215 meter square base = **705.3805785** feet
Height 143.5 meters = **470.8005257** feet, short of Petrie, and any other measurement.

I E S Edwards: Square Base each side **707 feet 9 inches.** Height: **471** feet.

IMPORTANT, READ THIS:
My first projected Khafre pyramid height will conform to **Khufu** pyramid dynamics, as an **experimental design** to display the geometry in Khufu style mathematics. Khafre pyramid is {**3-4-5**} triangle geometry and my hieght: **471 .428571 428571**~ ft., is directly between Petrie's and Lehner's height's. Initially I will form a rectangular pyramid base with dimensions: {**707 .07 07 07**~} by {**707 .142857 142857**~} feet, and when multiplying the two base values above = exactly Square Root **500,000**.
This Khafre geometry will then be revised to Square Base pyramids as more precise examples that will conform to virtually Petrie's exact dimensions for the base.

Menkaure Pyramid: I will create pyramid models based on all possibilities below.
Petrie Base:
North: Petrie could not measure this side. His mean dimension: **346.1333** feet.
South: **346.48333**~ feet
East: **345.7666**~ feet
West: **346.15833**~ feet
Petrie gives two Height possibilities:
213.666~ feet, + or – 15 inches.
215 feet, + or – 2 inches by the granite courses.

Mark Lehner base is well short of Petrie's numbers, by as much as **3 to 9 feet**:
102.2 meters by 104.6 meters = **335.3018378** feet, **by 343.1758535** feet.
Height: **65** meters = **213.2546** feet, using the metric conversion factor supplied earlier.

I E S Edwards base is 13 feet longer than Lehner, and about 10 feet longer than Petrie:
Average of **356.5** feet per side, and a Height: **218** feet.

As you can plainly witness, the measurements for the **Menkaure pyramid** have extreme divergence between the three scientific surveys.
Petrie did not have much time to perform his measurements, and I E S Edwards really just gives numbers with no backup on how he got them.
Mark Lehner's measurements are certainly well short but they do show a distinct rectangular pyramid in formation. Lehner's measurements appear short on all three Giza pyramids, though his slopes on the Khufu and Khafre pyramids are almost spot on.

Coles used more modern and qualified equipment than Petrie at the Khufu pyramid, and it is safe to assume that Lehner used even better equipment and was just as scientific as well in his methods and applications. Only **I E S Edwards** recognized that the Khufu pyramid was meant to be a square base of **756** feet in his book.
Commentary from Edwards book:

> The last of the preliminaries to be accomplished on site was the execution of an accurate survey in order to ensure that the base of the pyramid should form as nearly a perfect square base as possible, a perfect square of which would be oriented so as to face one of the four cardinal points.
> The unit of measurement was the Royal Cubit 20.62 inches consisting of 7 palms or 28 digits, one palm equal to 4 digits. Measuring cords were made either of palm fibre or flax fibre both of which certainly have been stretched when used. It is therefore hardly surprising that there should be a difference of 7.9 inches in length between the longest and shortest sides of the Great Pyramid {Coles}, indeed it seems remarkable that on sides exceeding 9000 inches in length so small an error should have occurred, especially when it is remembered that the central mound of rock would have rendered impractical any measurement of the diagonals to check accuracy of the square.

Edwards opinion defines the obvious, that most likely any discrepancies found in base line dimensions of the Khufu pyramid as shown by Petrie and Coles are likely results of simple factors of error in construction in achieving so vast an architectural undertaking.

So basically the argument over "Intent" of Giza pyramid construction dimensions and actual dimensions of these three Giza pyramids becomes apparently silly when evidenced with this virtual melting pot of nonsensical numbers as displayed by the multitudes of researchers such as Petrie, Coles, Edwards and Lehner.
Two determinations for the Khufu and Khafre pyramids emerge solidly from the divergent measurement data presented:
The Khufu pyramid is modeled with Intent in sacred geometry with a square base of **756** feet = 2 x Saturn synod **378**, and **10 x 756 = 7560** = **11** x Mars {**687 .27 27 27**~}. and the mathematics of this pyramid utilize **Egyptian Ancient Pi** dynamics in confluence with planetary timelimes inherent in the mathematical design**:**

Khufu Pyramid Height / by Khufu Base = {**2 / by Ancient Pi**}.

A calendar count value for the Mars sidereal is found in the base as well, in this form:
11 x Mars {**687 .27 27 27**~} = **7560** or ten times the Khufu base.
This is slightly different than the NASA average of **687** days for the Mars sidereal, and in calendar accounting with the extra {0 .27 27 27 27~} days per year, every **2520** years one Mars sidereal would be subtracted to be congruent to NASA.
252 is an important Pascal triangle number, but it also could be that the Mars sidereal did average {**687 .27 27 27**~} days during the Fourth Dynasty, but it is more likely that the value is an Ancient Pi calendar count system constant, as the **Earth circumference** is known as **21600** nautical miles = Mars {**687 .27 27 27**~} **x 10 Ancient Pi.**

The Khafre Pyramid is modeled after the sacred geometry of the {**3 - 4 - 5**} triangle.
The sidereal of Venus is definitively incorporated as Intent into the base measurements, using Ancient Pi as a multiplicative constant. This will be shown in the Khafre section.
The Khafre pyramid Corner Angle is identical to the upper Bent Pyramid side face angle.

The Menkaure Pyramid creates a mind boggling dilemma with wildly diverging measurements as presented with Petrie, Edwards, and Lehner.
In this case I will find the highest statistical possibilities to create sacred geometry model pyramids with dimensions between those of Petrie's and Lehner's dimensions.
I E S Edwards Menkaure pyramid dimensions will be addressed separately.
It is my opinion that Lehner is short in his measurements, but he is correct on the rectangular base form, and Petrie is closer to the mark but still rife with oddball numbers.

What most scientific researchers that have been to Giza to calculate the pyramid dimensions fail to recognize is that their measurements are subject to a huge array of criteria which will affect their ultimate final conclusive data results.
Petrie does allow "factors of error", but they are so large such that slim confidence can be used in his {or anybody's} determining true accuracy of the Egyptians "Intent".
Petrie allows himself to interpret Egyptian pyramid "Intent", and Edwards in his book points to examples where "grave concern" should be used interpreting Petrie's analysis.
The Giza pyramids have undergone 4500 years of erosions, earthquakes, early massive repeated plundering and even quarrying for stone in constructions nearby, and even attempted destructions by madmen in power in later centuries.

To move forward out of the Pandora's Box of pyramid measurements as displayed by the three historic authors, one attempts to define them from the standpoint of looking at possible "sacred geometry" models that could have been employed.
Using the standard mathematics used at the time of construction invariably should imply that Ancient Pi and Royal Cubit count systems are the determinant numerological and cosmological standards applied to the Giza pyramid constructions.

Other systems are often mentioned in Giza slope analysis,
and one of these are **Sekeds**, and this involves cubits, palms and digits.
The Seked for the Khufu pyramid is **5.5**,
and the Seked for the Khafre pyramid is **5.25**.

My observation on this was that if you **take the Seked value and divide it into 7**
you get the **exact tangents of the slopes** of the Khufu and Khafre pyramids,
as I have designed them:

{**7 / by Khufu Seked 5.5**} = {**1 .27 27 27 27**~} = {**14 / by 11**}.

{**7 / by Khafre Seked 5.25**} = {**1.3333333**~} = slope tangent of the Khafre pyramid.

It is my understanding that a Seked cannot be found for the Menkaure pyramid,
but an exact value for the tangent of the pyramid slope can be defined as:
{**7 / by 5.67**} = {**1 .234567901**~} = {**700 / 567**},
where {567} = {7 x 9 x 9} = {9 x 63}, where {99 / 63} = Ancient Pi / 2.
This is not a proper Seked interpretation, but it does supply a fraction that the Egyptians could have used as a standard basis to express the slope tangent.

Lehner's Menkaure slope is probably errant, but for fairness his value is extremely close to the fraction {**87 / 70**} = {1 .2 428571 428571~} = {51.17992425} degrees.
The only attribution that can be given to value **87** in the fraction is that the total nets of the hypercube {**261**} / by {**3**} = {**87**}. It is the only fraction applicable to Lehner's slope.

Every Egyptian pyramid slope should be able to be expressed as a simple usable fraction, with a number divisible with **7, 70, or 700** to produce the slope tangent**.**

The slope of the upper section of the bent Pyramid can be defined as:
{**66 / 70**} = {**0 .9 428571 428571 428571**~}, take arctangent to equal **43 .3153** degrees.
{**66 / 70**} = **Ancient Pi / by** {**3 .3333333**~}.
{**70 / 66**} = {**1 .06 06 06 06**~}, **then**:
{**1 .06 06 06 06**~} / by {**1 .27 27 27 27**~} = {**0 .8333333**~} = **modern Phi sq. / by uPi**!

Mark Lehner's calculated lower section of the Bent Pyramid has a slope of 54.4625 deg.
and that is almost spot on the exact arctangent of {**1.4**} = arctangent of {**7 / by 5**}.
Note as well that in my Convergence Dynamics of important universal constants:
{**Phi x e**}, then **/ by Pi** = {**1.4**}, and:
{**1.4**} = Mayan astronomical glyph {**819**} **/ by** {**585**} Venus synod {Mayan Long Count}

The Flinders Petrie Conundrum

The main problem faced by many of us attempting to decipher the slopes of the three Giza pyramids are the oddball measurements extracted by Petrie. Flinders Petrie exacts pyramid bases that have short and long sides, and due to this he arrives at a "mean" or average length for the sides of the pyramids combined with variable heights that make little sense whatsoever.
On the Khufu Pyramid, Petrie has a height of + **or –** 7 inches.
His average slope is 51 .866666~ degrees.
Petrie: On the whole, we probably cannot do better than take **51º 52' ± 2'** as the nearest approximation to the mean angle of the Pyramid, allowing some weight to the South side.

"…allowing some weight to the South side…", Petrie is obviously uneasy with his results.

Anybody looking at that slope and height realizes that something is all wrong, and I am sorry but that just doesn't make the pyramids resonate, so to say.
Only in Petrie's Khufu Pyramid north face does he calculate a mean average that is close to the sacred geometry model that is the true standard as I have displayed it.

Petrie: **North face weighted mean**: 51 degrees 50 minutes 40 seconds = **51 .84444**~.

On the Khafre Pyramid, Petrie has a height of + **or –** 13 inches and multiple slopes!
Often heard amongst people addressing these measurements is that they believe that the Egyptians purposely created these lengths for reasons completely unknown, and then these are the same people that take the "mean" or average lengths and create square bases so as to draw a circle around them and offer other geometry possibilities from the diagonals and so forth.
It is apparent that Petrie himself was disturbed by the completed calculations, **thus the Royal Cubit was relegated to a floating cubit** of indeterminate consistency, and his work is rife with "factors of error" and means and averages.
Obviously, if the Egyptians tweaked their pyramid bases to accommodate certain mathematical count system variations or planetary timelines in flux we have possibilities to probe and analyze. However, with Petrie's uneven bases there is an offset or shifted center point for the diagonals, and Petrie more than anything relies upon his own interpretive specific criteria to use as a starting point for all his profuse measurements, and then he also expresses his personal beliefs on the "intent" of the Egyptians being pursuant to his models of pyramid dimension calculations. Also to take into consideration are 4500 years of land movements, earthquakes, erosions affecting those pyramids.

If one is to rely on "intent" of the Egyptians, one should look to a standard sacred geometry model for them to create their pyramids from, and it stands to reason that this would be derived from their calendar and number count systems connected to Ancient Pi. The Egyptians never used modern Pi, and they didn't know this value. Though they did not know modern Phi, what they could accomplish was direct and excruciatingly exact cosmologic calendar numerologies that converge the planetary timelines into a sacred geometry that could be translated into pyramid geometries using a standard sacred geometry model of the Khufu pyramid to work with.

The Royal Cubit 20 .618 18 18 18~ and the Khufu Pyramid

Egyptologists have attempted to define the dimensions and the slope of the Great Giza Khufu Pyramid for over a century now. Several people in recent history have dispatched themselves to meticulously measure and determine the slopes of each of the three pyramids at Giza, notably Petrie and Coles, IES Edwards and Mark Lehner.
Petrie has gained the most fame from his time at Giza, and his measurements along with many others have calculated dimensions to reveal the 3 pyramids to have uneven bases. However without fail, each and every pyramid specialist takes the "mean" or the average length of the base, and creates a square base to calculate the Side Face slopes of the pyramids and their complete dimensions ultimately.

The people that claim that the Egyptians "intent" was to create their pyramids with uneven base lengths and thus uneven slopes, offer no resolution of the problem presented, and they are the first to just take an average and create a square base pyramid and an average height, and then an average slope based on a plethora of intangible possibilities.

My assertion is that in any ancient culture, Egyptian, Sumerian or Mayan etc., the fundamental process of applying aspects of planetary calendars in pyramid dimensions were based on the pure sacred geometry models of their cosmologic numerologies and number count systems as applied to Earth and planetary calendars.
In the case of the Egyptians, the most obvious mathematical model they worked with was **Ancient Pi =** {**22 / 7**}. The Egyptians did not use modern Pi.

The **Khufu pyramid dimensions** are well known and accepted by all scholars to be a base of **440 royal cubits, and height of 280 royal cubits**.
The "sacred geometry" model of the Khufu pyramid is accepted by virtually all scholars and pyramidologists regardless of Flinder Petrie's 19th century measurements to have a base of **756** feet = **9072** inches.
Thus: **9072 inches / by 440 Royal Cubits = 20 .618 18 18 18~ inches per Royal Cubit.**

The **HEIGHT** of the Khufu Pyramid at Giza,
thus is dependant on half the base length of **756 feet = the Saturn Synod 378,**
then **378** times the **Square Root Ancient Egyptian Phi** {**14 / 11**~} or {**1 .27 27 27 27**~},
Therefore:
Saturn Synod **378 x** {**1 .27 27 27 27**~} = {**481 .09 09 09 09**~} feet = height.
{**481 .09 09 09 09**~} feet x 12 inches per foot = {**5773 .09 09 09 09**~} inches.
The Khufu Pyramid Height =
280 Royal Cubits of {**20 .618 18 18 18**~} inches = {**5773 .09 09 09 09**~} inches.

Now to incorporate other planetary timelines into the Khufu Pyramid:
10 Mercury sidereal of 88 days = 880 = 280 x Ancient Pi.
The Ancient Pi Egyptian Mars sidereal = {**687 .27 27 27 27**~} = **540** x {**1 .27 27 27**~}.
The Khufu Pyramid base **756 feet / by 11** = {**68 .72 72 72 72**~} = Mars sidereal **/ 10.**
The Khufu Pyramid height {**481 .09 09 09**~}**/ by Mars sidereal** = the ratio {**7 / 10**}.

Note that the Khufu pyramid base of **756 feet /** by the Venus sidereal **225 =** {**3.36**}
This is important because in floating decimal systems:
{**3.36**}---→ to {**33.6**}---→ then {**336**} **x** {**Ancient Pi / 2**} = Solfeggio **528.**
or:
{**336**} x {**10Ancient Pi / 2**} = **5280**, the value for the mile in feet!
In the **Philadelphia Grand Masonic Temple Norman Rall** room,
are the arches which contain the **Masonic Codes**, {see Masonic Codes pdf}

The Khufu Pyramid {**and all the others**} MUST operate as a sacred geometry model with a **definitive Royal Cubit,**
and not Flinder Petrie's oddball spread of {**20 .615 to 20.625**},
and the **Royal Cubit** must act as a constant which then aligns in mathematical perfection with specific important planetary timelines for the Egyptians to model their pyramids after into the "sacred geometry" that our solar system displays,
which all the ancient cultures recognized and utilized in their mathematics systems.
The Royal Cubit must also display capacity to align important ancient number systems.
Solfeggio 528 x 10 = the value for the mile as 5280 feet:
5280 feet / by 756 feet Khufu pyramid base= {x},
then {x}times the Royal Cubit 20 .618 18 18 18~ = 144 = 12 squared.

The Egyptians used Feet and Inches, and never did they use meters in Lehner's work. Clearly exampled in the equations with Khufu base 756 and 12: {**756 / by 12**} = {**63**}. and {99 / by 63} = {aPi / 2}.

The Masonic 16 Pointed Star:

This is the exact architectural layout of the **Norman Hall arches**, one above the other, {on the left side of the diagram} in the **Philadelphia Grand Masonic Lodge**.

The **16** point cathedral window on the right is a French Masonic influenced cathedral. Bottom right is the Sumerian cylinder seal with the 16 pointed star and 17 pointed arch, and the 7 Dots **may be** Earth in Sitchin's translations.

The number {**16**} works in Khufu base {576} mathematic harmonic cycles like this: {**756,000**} **/ by 16 =** {**47520**} = **125 x** Saturn synod {**378**}.

Note that the two top values in the arches are 9 and 11, thus {**9 x 11**} = **99**.

Ancient Pi is clearly found in the 3 vertical aligned values as shown {**11 x 16 / 56**} = **aPi**.

The **17** spires in the Sumerian Arch perimeter correlate directly to the Masonic Codes displayed in the lower arch of **17** pyramidal nodes sectioned off as **15** star pyramids and **2** half star pyramids to total **17 total pyramidal nodes clearly displayed**.

This is Masonic Code to create two fractions for pyramid slope tangents:

{**21 / 17**} for the Menkaure slope, {**21 / 15**} for the Bent Pyramid bottom section slope.

A Distinctly Possible Venus Mars Synod in the Khufu Pyramid

Repeating the prior equation with **144,** for the possible Khufu Venus Mars synod:
5280 feet / by 756 feet Khufu pyramid base= {x},
then {x}times the Royal Cubit 20 .618 18 18 18~ = 144 = 12 squared.
Utilizing the floating decimal system with the above universal value value of **144,**
with the HEIGHT of the Khufu Pyramid:
Khufu pyramid height {**481 .09 09 09 09**~} **/ by** {**1 .44**} = {**334 .09 09 09 09**~}.
NASA has a value for this synod between Mars and Venus that is **334** days.
Further equations below will facilitate my theory for the Khufu pyramid being able
to display a Mars Venus synod within that mathematical structure.

Most interestingly, this then evolves into the Mayan Dresden Codex **702** as such:
The possible Khufu Pyramid Earth Venus synod = {**334 .09 09 09**~} days,
Then {**334 .09 09 09**~}:
divided by Khufu pyramid height {**481 .09 09 09**~} = {**0 .6944444**~}←----note,
then:
The **square root** of {**0.6944444**~} = {**0.8333333**~}←----note,
and:
{**0.8333333**~} = the Mayan Long Count Venus synod of **585** days**,**
divided by the **Mayan Dresden Codex astronomical constant 702!**
And: {**0 .8333333**~} **also equals modern Phi sq. / by Universal Harmonic Pi.**

One can use the Mars sidereal with the Venus synod in Khufu Ancient Pi systems:
10 Mars sidereal = {**6872 .72 72 72** ~},
then **/ by** Venus Mars synod {**334 .09 09 09 09**~} = {**144 / by 7**}.

---→ Venus Mars synod {**334 .09 09 09 09**~} x {**aPi**} = {**1050**}, ←----!
and this value of {**1050**} is a distinct realtuionship between the Saturn synod {**378**},
and Egyptian calendar count {**360**} as: {**360**} x {**1050**} = {**378,000**}!

Another progression: NOTE the bottom two lines as this progression culminates!
{**334 .09 09 09 09**~} **/ by** Sqrt Ancient Phi {**1 .27 27 27 27**~} = **262.5** = 2100 / 8,
2625 / by 25 = 105.
262.5 / by Saturn synod **378 =** {**0.8333333**~}squared.
262.5 / by Venus sidereal {**225**} = {**7 / 6**}.
Then:
Mars sidereal {**687 .27 27 27**~} **/ by 262.5 =** {**2 .618 18 18 18**~}, ←---note below.
Later in this document,
another **Ancient Egyptian Pi** value will be introduced as:
{**2 .618 18 18**~} **x** {**12**} **= 10 x** Ancient Pi value {**3 .14 18 18 18**~},
where in the Pyramid Slope Equation that creates the slope tangent:
{**4 / by 3 .14 18 18 18**~} = {**1 .273 148 148 148**~} ←----Note this value 2 lines down.
This is important with the Venus synod as shown in this equation with the **Royal Cubit**:
Sqrt. Ancient Phi {**1 .27 27 27 27**~} **x** {**1 .273 148 148 148**~} **x 10 Royal Cubits** equals:
the Khufu pyramid Mars-Venus synod of {**334 .09 09 09 09**~} days.

The Royal Cubit and Ancient Pi and Kemi 1296 Count Systems
The Royal Cubit = 20 .618 18 18 18 18 18~

Flinders Petrie in his famous measurements of the Khufu Pyramid went to great efforts to try and exact the slope, base dimensions, height, and the Royal Cubit.
What Petrie failed to accomplish was the simplest of mathematical tasks.
One needed only to look at Egyptian number systems with Ancient Pi in Egyptian 360 count Calendar systems: Kemi base value **1296 x 20** = Platonic Age **25920** = {**360 x 72**}.

4 / by Ancient Pi {**22 / 7**} **= Ancient Sqrt. Phi =** {**1 .27 27 27 27**~} = {**14 / 11**}
The slope of the Khufu Pyramid is arctangent {**1 .27 27 27 27**~} = **51 .84277**~ degrees.
These equations are the pure and sacred geometry model for the Khufu pyramid.
In order to achieve a TRUE Royal Cubit which incorporates both the geometry and the well known Egyptian numbers attached to Egyptian Kemi base value **1296**, one has to unify the geometry values and these Kemi numbers with a common value.
However the best Petrie could calculate from his profuse and belabored measurements for the Royal Cubit in the Khufu pyramid was a spread between the values of:

20. 615 ←-----→ 20. 625.

This is due no doubt to length variations he found in the pyramid base in the perplexing situation he faced trying to use all the data accumulated into averages and "means", and thus Petrie after all his incredible efforts gave us a floating Royal Cubit.

By using Ancient Pi {**22 / 7**} and Ancient Sqrt. Phi {**14 / 11**}, there can only be a single possible candidate as a **CONSTANT** for the **Royal Cubit**:
Follow the progression of equations:
{**20 .618 18 18 18**~} **/ by** Sqrt Ancient Phi {**1 .27 27 27 27 27**~} = **16.2,**
and {**16 .2**} = **10 x** Ancient Calendar Count Phi {**1 .62**}, or **162** = {**3 x 6 x 9**}.

{**20 .618 18 18**~} x 2**00 Ancient Pi** = **Egyptian Number 12960 ←-----!** {**36 x 360**},
Note that Kemi value {**1296**} = **8 x** {**162**}, the Calendar Count Phi value above!

All results are multiples of the **360** day calendar year and Calendar Count Phi {**1.62**},
{**20 .618 18 18** ~} x 3**00 Ancient Pi** = **Egyptian Number 19440 = 360 x 54 = 120 x 162.**

{**20 .618 18 18**~} x 4**00 Ancient Pi** = **Egyptian Number 25920 = 360 x 72 = 160 x 162.**
Or:
{**20 .618 18 18 18** ~} x 5**0 Ancient Pi** = **Egyptian Number 3240 =**{**9 x 360**} = **20 x 162.**
{**20 .618 18 18 18**~} x **60 Ancient Pi** = **Egyptian Number 3888 =**{**36 x 108**}= **24 x 162.**

{**20 .618 18 18 18**~} x 8**0 Ancient Pi** = **Egyptian Number 5184 = 72sq. = 32 x 162.**
The Royal Cubit x 800 Ancient Pi = Egyptian Number 51840 = 144 x 360 calendar.

{**20 .618 18 18 18**~} x **100 Ancient Pi** = **Egyptian Number 6480 = 18 x 360.**
Note! Egyptian number **648** x {**3 .33333**~} ={2**160**} = Mars {687 .27 27 27~} x {aPi}.
The Royal Cubit x {33 .33333~} = Mars {687 .27 27 27~}!

The Ancient Egyptian Mars Sidereal = {687 .27 27 27 27 27~} and:
The Royal Cubit = 20 .618 18 18 18~

Ancient Pi and Ancient Sqrt. Phi uses fractional variations of the numbers **7 and 11**.
Basically, **Ancient Pi / 2** = {**11 / 7**}.
The base of the Khufu Pyramid in Universal Harmonic Code Geometry = **756** feet.
Khufu Base **756 / by 11 =** {**68 .72 72 72 72 72**}**= exactly** {**687 .27 27 27 27**} **/ by 10.**

Khufu Base **756 /** by **7** = {**108**}, and to example the diversity of the number {**756**},
the 5 pentagon angles are 108 degrees each, which have modern Phi in the geometry.
Noting that the **5** pentagon angles, **times** {**108**} degrees = {**540**},
Then taking that forward:
{**540**} x Sqrt Ancient Phi {**1 .27 27 27 27** ~} = Mars Sidereal {**687 .27 27 27 27** ~}.

Height of the Khufu pyramid {**481 .09 09 09 09**~} **/ by** {**687 .27 27 27 27**~} = {**7 / 10**}.

Mars Sidereal {**687 .27 27 27 27**~}:
divided by the Royal Cubit of {**20 .618 18 18 18**~] = {**33 .33333333**~} <**-----**!
and {**33 .333333**~} = **100 sine tetrahedral** {**19 .47122063**} degrees ! <-----!
{**13 x 33 .333333**~} = {**433 .33333**~}= $1/10^{th}$ the Jupiter sidereal in Mayan Long Count.
Then that value {**433 .33333**~} x Calendar Count Phi {**1.62**} = Dresden Codex {**702**}.
MLC {**1872000**} / by Jupiter sidereal {**4333 .333333**~} = **Egyptian number 432.**
That should be the icing on the Khufu Cake. Thus a True Constant
and **non variable Royal Cubit** emerges as {**20 .618 18 18 18 18**~}.

In my Hypercube 261 pdf, I perform a number systems test with the **sacred number 9**, and **Solfeggio 528** or the **mile 5280**. This equation reveals the value of the Egyptian Mars Sidereal and Solfeggio 528 as important nodal points in Universal Harmonics.
The "**9**" test:
{**9 x 8 x 7 x 6 x 5 x 4 x 3 x 2 x 1**} = **362880 = ten times total Khufu base in inches.**

362880 / by Solfeggio 528 = The Ancient Sqrt. Phi Mars sidereal {**687 .27 27 27 27**~}.

362880 / by the mile 5280 = {**68 .72 72 72 72 72** ~}, then **x 11** = **756** feet Khufu base.

362880 / by The Royal Cubit = 17600 = Mercury Sidereal 88 x 200,
thus: 362880 = The Royal Cubit x 5600 Ancient Pi.

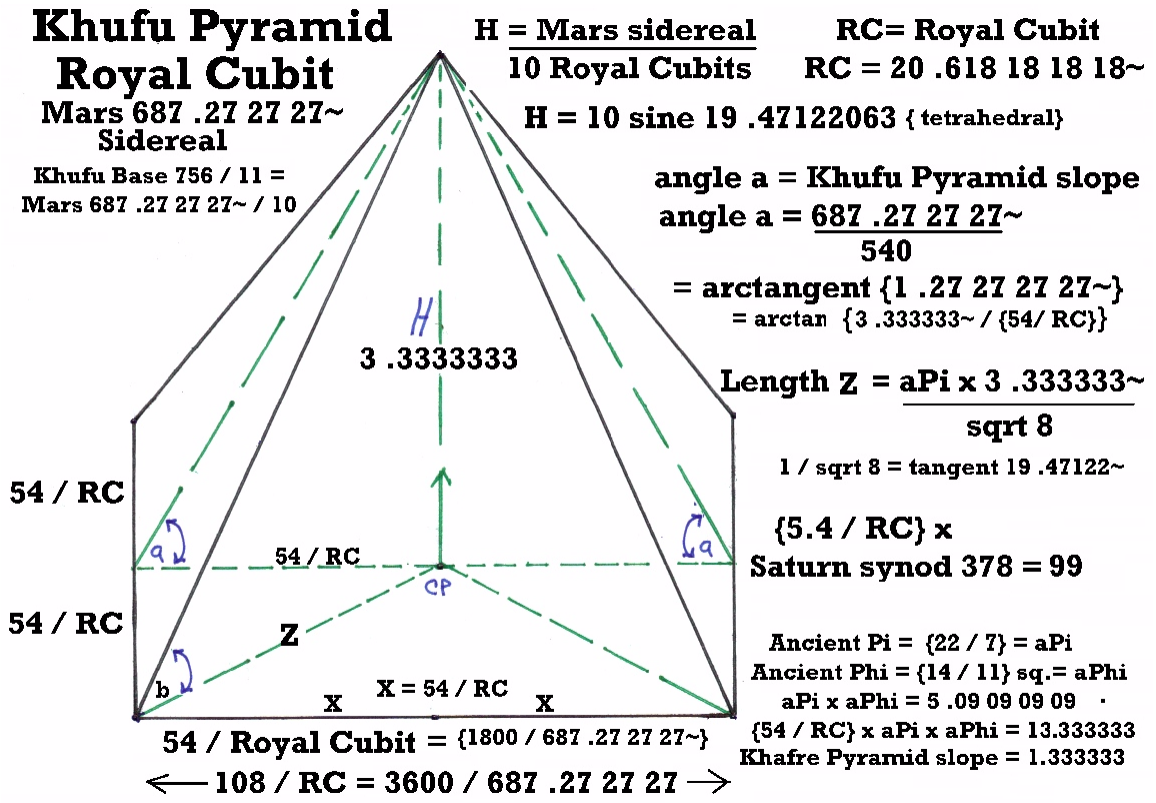
362880 = Kemi base value **1296 x 280,** and 280 cubits is the Khufu Pyramid height.
362880 = {70 x 5184} = 70 x 72squared.

The Royal Cubit / by 9 = Mars {**687 .27 27 27**~} **/ by 300.**
Also: 99 x Mars {**687 .27 27 27**~} **= 3300 Royal Cubits.**

Mars {**687 .27 27 27**~} / by Saturn synod {**378**} = {**x**},
then multiply {**x**}, **3 times by** {**1.2**}, this achieves the Ancient Pi value {**3.14 18 18 18~**}.
and note that {**1.2** = uPi / by Phi sq.}, or you can simply just use 12 as the multiplier.

The first pyramid presented for the **Royal Cubit** {**20 .618 18 18**~},
follows the Khufu Pyramid slope using **Sqrt Ancient Phi** {**1 .27 27 27 27**~}
as the **51 .84277**~ degree slope tangent, showing distinct **Universal Harmonic Coding.**
The height H = Mars sidereal {**687 .27 27 27**~} **/ by 100 Royal Cubits** = {**3.333333**~}
The height H also = 10 x the sine of tetrahedral 19 .47122063 degrees.
Diagonal Length Z = modern Sqrt2 x {**54 / by Royal Cubit**}.
Diagonal Length Z = {**Ancient Pi x 3 .333333**~} **/ by Sqrt 8.**

Ancient Pi = {**22 / 7**} = {**3 .142857 142857 142857**~} = **aPi.**
Ancient Sqrt. Phi = {**14 / 11**} = {**1 .27 27 27 27 27**~} = **Sqrt. aPhi.**
Ancient Phi = {**14 / 11**} **squared** = {**1 .619834711**~} = **aPhi** = {196 / 121}.



Note that the full base length = 3600 / by Mars sidereal 687 .27 27 27 27~.
3600 = The Egyptian Calendar Count year 360 days x 10.
3600 squared = 12960000 the full value of the Egyptian Kemi.
3600 = the legendary Planet X sidereal.
An extrapolation:
Mayan Long Count 1872000 / by Mars {**687 .27 27 27**~} = **X**
X times 378 Saturn synod = 1029600, then:
1029600 / by Venus synod 585 = 1760 = 20 x 88 Mercury sidereal.
The above extrapolation shows the beauty of Universal Harmonic Code operating the important focal point numbers of the planetary timelines unifying the Egyptian style Mars sidereal with the Mayan Long Count cosmolgic dynamics.
Note how the above number **102960** is composed of Egypt Kemi integers **1-2-9-6 !**

3600 / by Mars sidereal 687 .27 27 27 ~ is in the above pyramid as base length.
3600 / by Mars sidereal 687 .27 27 27~ = 5 .238095 238095←----note value= 110 / 21.
5 .238095238 x 378 Saturn synod = 1980 = 20 x 99 {**99 ancient count system**}.
THIS NEXT PYRAMID is created to show Egyptian Kemi base value 1296
as the base line measurement thus displaying "time pyramid" dynamics
with the Royal Cubit and the Mars sidereal.

The Royal Cubit
KHUFU
1296 Pyramid

Angle a = 51 .84277~ degrees
tangent angle a = 14 /11 = 1 .27 27 27 27 27

H = 481 .09 09 09 = 23 .33333 Royal Cubits
23 .33333 / by 7 = 10 sine 19 .47122063 degrees = 3 .333333

Height

$$H = \frac{481\ .09\ 09\ 09}{687\ .27\ 27\ 27} = 7 / 10$$

$$\frac{481\ .09\ 09\ 09}{824\ .72\ 72\ 72} = 0\ .5833333$$ **height of 2nd pyramid below**

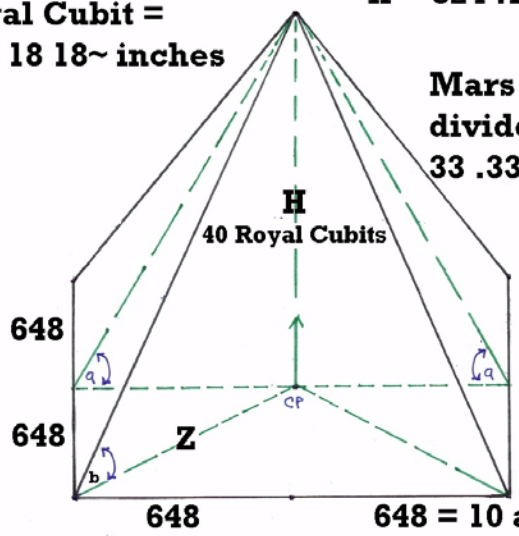
then x 780 = 455

0 .5833333 x 780 Mars synod = Pascal 455 = 378 x KhC

H = 824 .72 72 72 72 = 40 Royal Cubits

Royal Cubit =
20 .618 18 18~ inches

Mars sidereal 687 .27 27 27
divided by the Royal Cubit =
33 .333333 = 100 sine 19 .47122063



Z = Sqrt 2 x 648
Z = Sqrt 839808
839808 / by 5184 = 162
5184 = 72 sq.
Calendar Count Phi = 162
3 x 6 x 9 = 162

648 = 10 aPi x Royal Cubit

1296 = Royal Cubit x 20 Ancient Pi

H = 824 .72 72 72 72 = 40 Royal Cubits

$$\frac{824\ .72\ 72\ 72\ 72}{687\ .27\ 27\ 27\ 27} = 1\ .2$$ **= {uPi / Phi sq.} = 702 / 585**

divided by:

Dresden Codex 702 / Venus synod 585

The bottom equation aligns with my value for Universal Harmonic Pi = uPi.
uPi / by modern Phi squared = 1 .2 = Dresden Codex 702 / by Venus synod 585.
This creates the simple equations: {uPi / Phi sq} = 6 / 5, or {10uPi / Phi sq} = 12.
12 sq. = 144, and 144,000 x 13 = Mayan Long Count 1872000, then / by 585 = 3200.

An unusual extrapolation:
The above pyramid height of **40 Royal cubits =** {**824 .72 72 72 72**~}
Then:
{**824 .72 72 72**~} **/ by** Saturn synod **378 =** {**2 .18 18 18 18**~}←---note value.
Then:
{**2 .18 18 18 18**~} **x 12** {or 12 = 10uPi / by Phi sq.} = {**26 .18 18 18 18**~}←---note value.
Such that:
{**26 .18 18 18 18**~} **x 12 =** {**314 .18 18 18 18**~}←---note value.
Therefore:
Universal Harmonic Code "Convergence Dynamics" is exampled with:
Convergent Phi squared and Pi values of:
{**2 .618 18 18**~} and {**3 .14 18 18 18**~} which are established as multiples of **12** or {**1.2**}.
Also to note is that **late**r in this document the above value of convergent Phi squared
{**2 .618 18 18**~} **x 1000** will be the height of the Menkaure pyramid in inches
as designed by Edwards measurements = {**2618 .18 18 18**~} inches.

This system creates replicating decimals for quite a lengthy division process
when continually **dividing by** {**12**}, or specifically dividing by {**1.2**} as exampled below:
3 .14181818~→ 2 .6181818~→ 2 .181818~→ 1 .818181~→1 .515151~→1.262626
These values are all examples of the ancient **99** count numerologic system
that also incorporates Sqrt. of Ancient Phi {**1 .27 27 27 27**~} = **126 / 99**,
where the above **126** x 3 = **378** Saturn synod.
Example:
Great Platonic Age value 25920 / by 99 = {**2618 . 18 18 18**~}!

Example:
{**2 .6181818**} **/ by** {**1.2**} = {**2. 18 18 18 18**~},
Then:
{**2. 18 18 18 18**~} = **216 / by 99,**
And:
Egyptian number **2160 / by Mars sidereal 687 .27 27 27~ = Ancient Pi.**

Continuing Example:
{**2. 18 18 18 18**~} **/ by** {**1.2**} = {**1 .81 81 81 81**~},
And:
{**1 .81 81 81 81**~} = **180 / by 99,**
where:
180 = 100 Ancient Sqrt. Phi x my value of Ancient Sqrt 2, the math**:**
180 = 100x {**1 .27 27 27 27**~} **x** {**1 .414 285714 285714 285714**~}.
The "ancient Sqrt 2" in the **99** count numerological system:
140 / by 99 = {1.414 14 14 14~}and **99 / by 70** = {**1 .414 285714 285714 285714**~}
{**140 / 99**} x {**99 / 70** } **= 2**

Pi value {**3 .14 18 18 18**~}**:** replicating decimal of {**0 .14 18 18 18**~}= **780 / 5500**.
Mars synod **780 / by 5500** = {Dresden Codex **702 / by 4950**} where 4950 = 99 x 50.
Replicating decimal {**0 .618 18 18**~} = {**34 / 55**}, and {**0 .18 18 18**~} = {**2 / 11**}.

New Replicating Decimal variation sets with alternative Ancient Pi "sevenths" recombinated six digit sequences

It was shown earlier how the Egyptian Mars sidereal {**687 .27 27 27**~}
was defined in the Mayan Long Count {**1872000**}.
MLC {**1872000**} = {**433 .3333**~} x {**2 Ancient Pi**} x {**687 .27 27 27**~}
where the value {**433 .3333**~} is **1/10th** the Jupiter sidereal in the Mayan Long Count.

MLC {**1872000**} **/ by** Jupiter sidereal {4333 .3333~} = Egyptian number {**432**}.
MLC {**1872000**} **/ by** Venus synod {**585**} = {**3200**}
MLC {1872000} / by Mercury synod {**117**} = {**16000**}
Note that {16000} = **1000 x** {**Ancient Pi squared**} x {**1 .27 27 27 27**~ squared}.

To show the unusual replicating sequences that use the same integers as the Ancient Pi 'sevenths" but in a different order of cycling positions, the Egyptian Mars sidereal will be used with these Mayan Long Count values.

The Ancient Pi "sevenths" create replicating decimal sequences that rotate in order:
Ancient Pi = {**22 / 7**} = {**3 .142857 142857 142857**~},
{**1 / 7**} = {**0 .142857 142857**~}, {**2 / 7**} = {**0 .285714 285714**~},
{3 / **7**} = {**0 .428571 428571**~}, {**4 / 7**} = {**0 .571428 571428**~}
{**5 / 7**} = {**0 .714285 714285**~}, {**6 / 7**} = {**0 .857142 857142**~}
There are at least 2 other replicating sequences that use the exact same integers that the "sevenths" use, but they replicate in a different order,
and they are part of cycles in Pascal triangle value **286** = {**22 x 13**}**,**
and note that {**286**} **x** {**1 .27 27 27 27**~} = Pascal value {**364**} = {**28 x 13**}**.**

To show an example of the replicating decimal sequence, the Mayan Long Count value for the Mercury synod {**117**} {which may be the Egyptian count value as well},
and the Egyptian Mars sidereal {**687 .27 27 27**~} will be used,
then Pascal value {**286**} and Ceres sidereal {**1680**} will also be employed. **NOTES**:
Mercury synod {**117**} **x 11** = {**1287**} a Pascal number and remix of the MLC {**1872**}.
Mercury synod {**117**} **x 7** = {**819**} Mayan astronomical glyph = {13 x 63},
Therefore: {Pascal 1287 / by Mayan 819} = Egyptian Ancient Pi / 2.

Now note the replicating decimal sequence immediately found:
Mars {**687 .27 27 27**~} **/ by** Mercury {**117**} = {**5 .874125 874125 874125**~} ←--NOTE
Ceres sidereal {**1680**} **/ by** Pascal value{**286**} = {**5 .874125 874125 874125**~} ←NOTE
Replicating decimal {**0 .874125 874125**~} = {**250 / 286**} = {**1000 / by 1144**},
Where {**286** x 4} = {**1144**}, AND:
Convergent Pi value {**3 .141608392**~} = **3** and {**162 / by 1144**} ←--note 162 &1144.
Where: {**162**} = **1000** x Calendar Count Phi {**1.62**},
and {**1144**} = Pascal value {**364**} x **Ancient Pi,** and {**11440**} **/ by** {**260**} Tzolkin = **44**.
The sequence order: {**0 .125874 125874**~} = {**36 / 286**} = {**144 / 1144**},
{**0 .258741 258741**~} = {74 / 286},
{**0 .587412 587412**~} = {**168 / 286**}, where {**168**} = **Solfeggio 528 / by Ancient Pi**.

This set of replicating decimal sequences has the exact same integers as the **sevenths**.
The next sequence is found using the Mayan Long Count Venus synod!
Mars {**687 .27 27 27**~} **/ by** {**585**} Venus synod = {**1 .174825 174825 1747825**~}.
{**1 .174825 174825 174825**~} x {**286**} = {**336**} = {**5280**} mile **/ by 5 Ancient Pi.**
Replicating sequence**:**
{**0 .174825 174825 174825**~} = {**50 / 286**}, therefore the next sequnce in order is:
{**0 .748251 748251 748251**~} = {**214 / 286**},
and the most important of that decimal sequence is:
{**0 .251748 251748 251748**~} = {**72 / 286**} = {**288 / 1144**}, where **288** = {**2 x 144**}.

So three replicating sequences using the integers of the Ancient Pi sevenths are found.
It stands to reason that there would be three more, I have not had time to isolate them.
Pascal value {**286**} creates a host of replicating sequences as does Mars {**687 .27 27 27**~}

Egyptian Mars sidereal {**687 .27 27 27**~},
divided by Mars synod {**780**} = {**0 .88 111 888 111 888**~}, ←-- note sequence.
and {**0 .88 111 888 111 888**~} x Pascal {**286**} = Pascal {**252**}.

Pascal {**286**} x Egyptian Sqrt. Ancient Phi {**1 .27 27 27 27**~} = Pascal value {**364**}.
I use {**364**} as an Earth year count possibility in the Mayan Long Count because:
13 full moons per year ={**13 x 28** } = {**364**}, where {28 = 4 seven day weeks}.
Ten year cycle of {**364**} = {**3640**} = **14** x Tzolkin {**260**}.
Mayan Long Count {**1872000**} **/ by** {**364**} = {**36,000 / by 7**}.
Then:
Mars {**687 .27 27 27**~} **/ by** {**364**} = {**1 .888 111 888 111** ~}
{**1 .888 111 888 111** ~} x {**286**} = {**540**}.
{**1 .888 111 888 111** ~} x {**1144**} = {**2160**} = Mars {687 .27 27 27~} x Ancient Pi.

Jupiter Earth synod NASA {399} and ancient calendar count {400}

In astronomical calendar count systems existent the **Jupiter Earth synod** is **400** days.
Mayan Long Count {**1872000**} **/ by** {**400**} = {**4680**} cycles = {**13 x 360**}.
{**4680**} = {**6 .66666**~} x Mayan {**702**}.
Khufu base **756 x 400** = {**30240**} = **80** Saturn synods.
Kemi base value {**1296**} **/ by** {**400**} = {**3.24**}, and {**324**} = {**18 squared**}.
Therefore as earlier shown:
11 x Mars {**687 .27 27 27**~} = {**7560**} = Khufu pyramid base {**756**} **x 10**,
Khufu Pyramid Mars {**687 .27 27 27**~} **/ by** Jupiter {**400**} = {**1 .718 18 18** ~}← NOTE!
And:
{**1 .718 18 18**~} = **The Royal Cubit foot = {12** x **1 .718 18 18**~} = {**20 .618 18 18~**}.
Note:
Jupiter Earth synod {**400**} x Khufu Constant = {**481 .481 481 481**~}
Jupiter sidereal {**4333. 33333**~} **/ by 9** = {**481 .481 481 481**~}
Mars synod {**780**} **/ by** {**481 .481 481 481**~} = {**1.62**} or ancient Calendar Count Phi.

It is true that NASA {**399**} can be accounted as {**7 x 57**} = {**19 x 21**}, but in the
Mayan Long Count and Ancient Pi Khufu pyramid it is calendar counted as 400 days.

The Rectangular Base Khufu Pyramid with two slopes:

A new Ancient Pi value used with Egyptian Convergent Phi Squared to create a secondary Khufu Pyramid slope, and rectangular base pyramid

A commonly known calendar constant is the Great Platonic Age {**25920**} years**,**
In Egyptian and Sumerian calendar count this is {**72 x 360**} ={**25920**}, in days.
My works also include the ancient {**99**} count system which uses the fraction:
{**99 / 63**} = **Ancient Pi / 2.**
A unique Phi squared constant emerges from the **99** count system application**:**
Egyptian Calendar value {**25920**}, then **/ by** {**99**} = {**261 .81 81 81 81**~}. ←**--- Note!**
The convergent Phi squared value reveals the Pi value, and then by it's floating decimal :
12 x {**261 .81 81 81**~}= {**314 .18 18 18 18**~},
or
6 x {**2.618 18 18 18**~} = **5 x** {**3 .14 18 18 18**~}.
Therefore the two new **convergent Phi squared** and **Ancient Pi** values that emerge:
{**2 .618 18 18**~} x {**1.2**} = {**3 .14 18 18 18**~}, **or:**
Note that:
{**2 .618 18 18** ~} x {**uPi / modern Phi sq**.} = {**3 .14 18 18 18**~},
or more importantly from calendar constants:
{**2 .618 18 18** ~} x {**702** Dresden Codex **/ by 585** Venus synod} = {**3 .14 18 18 18**~}.

Returning to the value {**72 x 360**} = {**25920**},
a harmonic Mars calendar count value is found with the new Phi squared and Pi values,

12 x Ancient Pi x {**687 .27 27 27**~} = {**25920**} = **12 x** {**687.5**} x {**3 .14 18 18 18**~}.

It should be noted that a sidereal value of {**687.5**} for Mars,
is a **Saxon calendar count system which a Jim Wakefield** is working on.
The Egyptian system is predicated by usage of the **7** and **11** with Ancient Pi,
whereas this Saxon system in Wakefield's work is determined by the numbers **8** and **12:**
8 x Mars {**687.5**} = {**5500**},
{**5500**} = **1750 Ancient Pi =** {**7000**} **/ by** {**1 .27 27 27 27~**} = {11 x 500}**.**
{**5500**} x {**687 .27 27 27**~} = {**3,780,000**} = 1000 Saturn {**378**} day synods.
{**5500**} x {**2. 618 18 18**~} = {**14,400**} = 1/10th the Mayan Baktun of {**144,000**}.

{**0 .14 18 18 18**~} = **Mars 780 synod / 5500 ←-----!**
{**3 .14 18 18 18**~} = {**17280**} **/ by** {**5500**} ←-----take note,
{**17280**} **/ by Egyptian Mars** {**687 .27 27 27**~} = **8 Ancient Pi**.
{**17280**} x {**687.5**} = {**11880000**} = Saturn synod {**378**} x **10,000 Ancient Pi**.
{**17280**} / by {**5184**} = {**3 .333333**~}.
{**17280**} **/ by** {**11**} = **500** x {**3 .14 18 18**~} and **600** x {**2 .618 18 18**~}
{**17280**} times {**11**} = **88** Mercury x **Ancient Pi** x Mars {**687 .27 27 27**~}.

{**2 .618 18 18 18**~} = Kemi base value {**1296**} / by {**495**}, where {**495**} = **11 x 45**.
{**0 .618 18 18 18**~} = {**306 / by 495**}, where {**306**} = 17 x 18,
and: Saturn synod {**378**} / by {**306**} = {**21 / by 17**}, and there is your Masonic Code!
The fraction Saturn synod {**378 / by 306**} can now be a Menkaure pyramid slope tangent.

{**4 / by Ancient Pi**} = {14 / 11} = {**1 .27 27 27 27**~} = slope {51 .84277~},
{**4 / by 3 .14 18 18**~} = {550 / 432} = {**1 .273 148 148**~} = {51 .851976~}.
The two above slope values begin to create the rectangular Khufu Pyramid.
Note: {**1 .27 27 27** ~} x {**1 .273 148 148**~}={1.6 203 703 703~} = {8400 / 5184}={2100 / 1296} and this value is a variant of Khufu Constant {1 .203 703 703~}.

Mars valued at {**687.5**} is a possible Saxon calendar count system that automatically aligns into the ancient **99** count system using 8 and 12 as count vehicles:
12 squared = {**144**}, and {**144**} x {**687.5**} = **99000**.
{**144**} / by {**55**} = {**2 .618 18 18**~},
and of course:
{**687.5**} x {**8**} = {**5500**}.
Ultimately it means that Saxon count systems evolved from ancient Egyptian systems.
So which Mars value is more valid?
Obviously the Egyptian calendar count Mars sidereal {**687 .27 27 27**~} is because this value is substantially closer to the NASA average of **687** days.
However both count systems function in perfect calendar count dynamics,
and this offers the Egyptians a secondary calendar count system based on 8 and 12, that utilizes another standard of Pi developed from a convergent Phi squared value, with important Egyptian **360** day calendar count constants {**25920**} and then {**2160**}:

12 x Ancient Pi x {**687 .27 27 27**~} = {**25920**} = **12 x** {**687.5**} x {**3 .14 18 18 18**~}.

Mars {**687 .27 27 27**~} **x Ancient Pi** = {**2160**} = Mars {**687.5**} x {**3 .14 18 18 18**~}.

Follow this progression working the value {**1800**}:
{**1800**} = Mars {**687 .27 27 27**~} **x** {**0 .833333~Ancient Pi**},
where noting the above value of {**0 .833333**~}:
{**0 .833333**~} = {Venus synod **585 / by** Mayan Dresden Codex constant **702**},
Next equating together:
{**1800**} = Mars {**687 .27 27 27**~} x {**585** Ancient Pi / by **702**}
{**1800**} = Mars {**687.5**} x {**2 .618 18 18**} ={**1800**}
{**1800**} = **1000** Egyptian Ancient **Sqrt. Phi** x Ancient **Sqrt. 2,** which is:
{**1800**} **= 1000** x {**1 .27 27 27 27**~} x {**1 .414 285714 285714 285714**~} or {99 / 70}.

{**687 .27 27 27**~} x {**687.5**} = {**472,500**} = Saturn synod {**378**} x **1250**.

7 x Mars {687 .27 27 27~} = {**481 .09 09 09**~} =Khufu pyramid height
8 x Mars {687.5} = {**5500**}.
{**7 / 8**} = {**0 .875**} ---→ {**875**},
then {**875**} **/ by** {**687.5**} = {**1 .27 27 27**~} = Sqrt. Ancient Egyptian Phi = {**14 / 11**}.

Mars {**687.27 27 27**~} **/ by** {**1 .27 27 27**~} = {**540**},
Mars {**687.27 27 27**~} **x** Saturn {**378**} = **540** x Khufu pyramid height {**481 .09 09 09**~}.

Mars {**687.5**} is exclusive in the 8 and 12 based Saxon system,
and align with **Solfeggio 396** and **528** just like these two values operate with
the Kahfre tangent {1 .33333~}: Solfeggio {396} x 1.33333~ = Solfeggio {528}.
Therefore:
Solfeggio {**396**} **/ by** {**687.5**} = {0 .576} ---→ {**576**} = {8 x 72} = {12 x 48},
Solfeggio {**528**} **/ by** {**687.5**} = {0 .768} ---→ {**768**} = {8 x 96} = {12 x 8 x 8}.

Mars {**687.5**} x Khafre slope tangent {**1 .333333**~} = {**916 .66666**~},
Then:
MLC {**1872000**} **/ by** {**916 .666666**~} = Mars synod {**780**} x {**2 .618 18 18**~}.

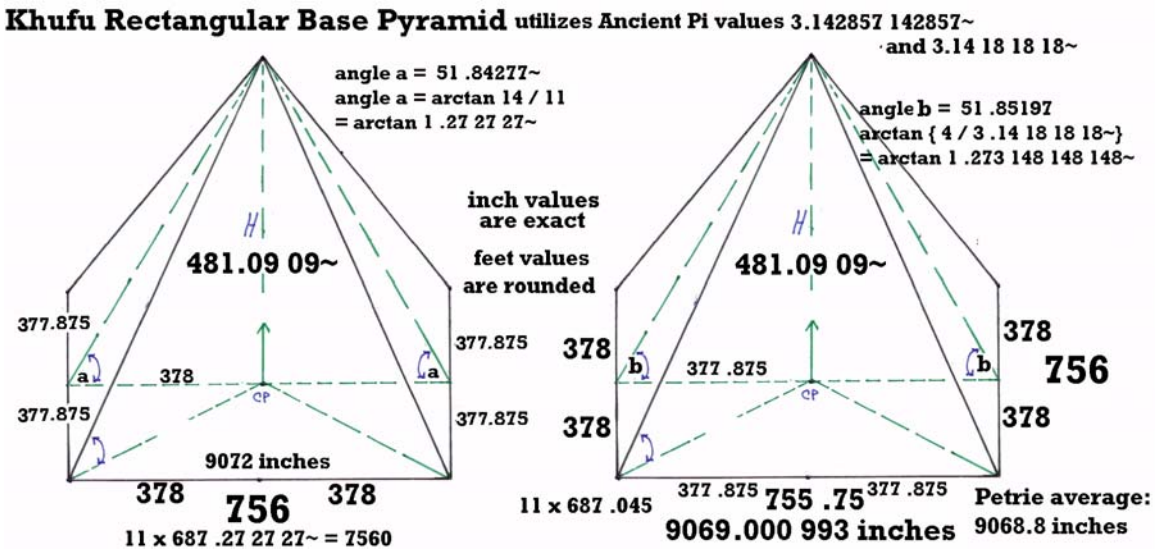
MLC {**1872000**} **/ by** {Mars {**687.5**} = {x},
Then:
{**x**} **/ by** {**3 .14 18 18 18**~} = {**866 .66666**~} = 2 x {**433 .33333**~},
where {**866 .66666**~} = Jupiter sidereal {**4333 .33333**~} **/ by 5,**
where {**866 .66666**~}= Mayan Dresden Codex {**702**} x {**1 .234567901**} ←---note
And {**1.234567901**} = Menkaure pyramid slope tangent of about 51 degrees.

Conclusion:

The Khufu pyramid slope defined: {**4 / by Ancient Pi**} = {**1 .27 27 27**~} = {**14 / 11**}.
Arctangent {**1 .27 27 27**~} = {**51 .84277**~} degrees.
Likewise a pyramid slope can be determined by harmonic Pi value {**3 .14 18 18 18**~},
in the same fashion as divided into **4** like Ancient Pi is:
{**4 / by 3 .14 18 18 18**~} = {**1 .273 148 148 148**~}.
Arctangent {**1 .273 148 148 148**~} = {**51 .85197607**} degrees.
Thus using : {**1 .273 148 148 148**~} as the above slope determinant,
a square base Khufu pyramid with base {2 x 378} = **756** feet, using that slope,
would have a height of {**481.25**} feet, using {**1 .273 148 148** ~} x Saturn synod {**378**}.
This would create a pyramid with a Royal Cubit of {20 .618 18 18~} in the base,
but uses a cubit of {20 .625} for the height. **This is inappropriate IMO**.
A height of **481.25** feet would allow the Mars sidereal to be **687.5** in a ratio:
{**481.25 / by 687.5**} = {**7 / 10**}, but retain Mars {687 .27 27 27~} in the base as:
{11 x 687 .27 27 27~} = {7560} = 10 x exact Khufu pyramid base.
To rectify the dual Royal Cubit application:

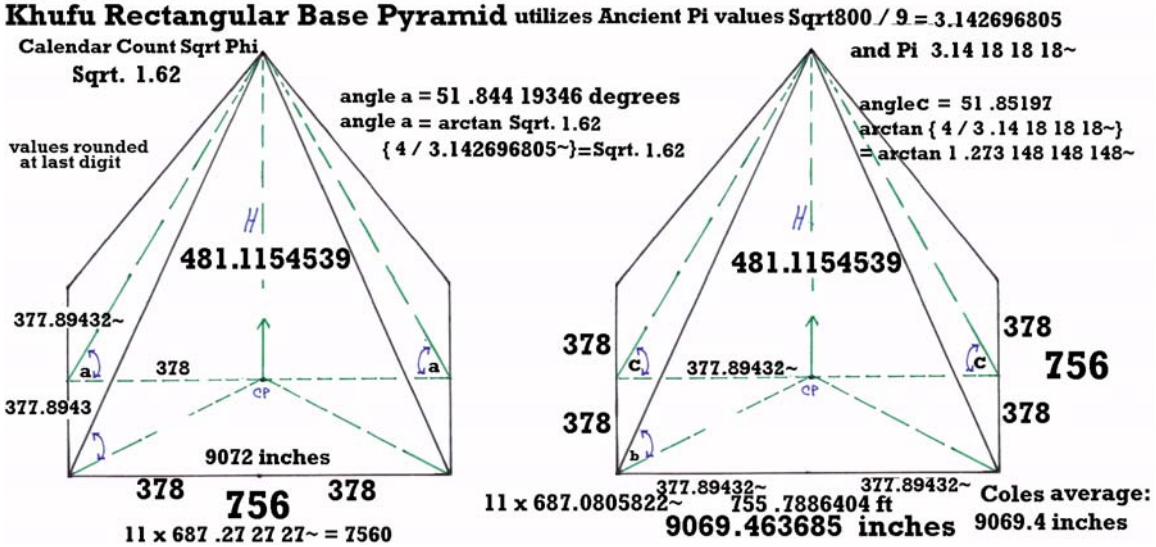
A pure Royal Cubit rectangular base Khufu pyramid:

would have 2 sides with Khufu pyramid base **756** feet,
retaining height {**481 .09 09 09**~} overall,
and would also have 2 sides at approx. {**755 .75**~} feet each,
to create a pyramid with **BOTH the Ancient Pi based slopes** seen above.
Interestingly, the above {**755 .75**~} ft. x 12 inches = {**9069**}.
which is almost exactly Petrie's mean or average of {**9068.8**} inches for base length.
The **exact** base value is {**755 .75 00827**~} x 12 inches = {**9069 .000993**},
{**9069 .000993**} = **RC** {**20 .618 18 18**~} x {**345.6** Ancient Sqrt. Phi units}, same as:
{**9069 .000993**} = **RC** {**20 .618 18 18**~} x {**345.6**} **x** {**1 .27 27 27 27**~}
where the above floating decimal value of {**3456**} **/ by 11** = {**314 .18 18 18**~}.



The exact base value is {**755 .75 00827**~} x 12 inches = {**9069 .000993**} ←---- note.
{**9069 .000993**} = **RC** {**20 .618 18 18**~} x {**345.6** Ancient Sqrt Phi units}, ←note **345.6**,
{**9069 .000993**} = **RC** {**20 .618 18 18**~} x **345.6** x {**1 .27 27 27 27**~} ←note **345.6,**
{**3456**} = {**53. 33333~**} **Royal Cubits x Ancient Pi,**
and {53 .3333~} = 400 x Khafre slope tangent {1.33333~},
or {**3456**} = **10 Royal Cubits** x {**1 .27 27 27**~} x **Ancient Pi squared** x {**1 .33333**~}.

Another **Rectangular Khufu Pyramid** has the slope arctangent used as**:**
Square Root of Calendar Count Phi = Sqrt{**1.62**} = {**1.272792206**},
with the two sides of 756 feet = 2 x 378 Saturn synod,
and thus{**378**} x Sqrt{**1.62**} = pyramid height {**481 .1154539**} feet. This creates a base length that converges extremely close to Coles average base length measure of {**9069.4**}.



This creates a **Pi** value of:
4 / by {**3 .142696805**} = Sqrt{**1.62**},
where {**3 .142696805**} **x 9** = exactly Square Root **800**,
where {**3 .142696805**} **/ by** modern square root **2** = {**20 / 9**} = {**2 .222222**~}.
where {**3 .142696805**} **/ by** modern square root **8** = {**10 / 9**} = {**1 .111111**~}.

The above pyramid using Calendar Count Phi would tie into Egyptian 360 Calendar:
Egypt base Kemi value {**1296**} **/ by Calendar Count Phi** {**1.62**} = {**800**}.
Kemi full value of {**12960000**} = {**360 x 36000**},
Then for the **Mars sidereal in the height** first shown using the Khafre slope tangent:
Egypt base Kemi value: {**1296**} **/ by** Khafre slope tangent {**1 .33333**~} = {**x**}
Then:
{**x**} **/ by** modern **Sqrt 2** ={**687 .3077913**~} as the Mars sidereal for that system such that:
The EXACT pyramid height {**481 .1154539**~} **/ by** Mars {**687 .3077913**~} = {**7 / 10**}.

The remaining two sides of this pyramid would then conform to the slope derived from:
{**4 / by 3 .14 18 18 18**~} = {**1 .273 148 148 148**~} = {**51 .85**197607} degrees.
This creates a base length of {**9069 .463685**} inches,
which converges extremely closely to Coles average Khufu base length {**9069.4**}.

So the two pyramids displayed employ rectangular bases to achieve two Ancient Pi pyramid slopes that each create a base length that converges either to Petrie's or Coles "mean" or average base length for the Khufu pyramid.
Does this validate Petrie's and Coles data?
Not in the context of how they displayed their results.
Note to remember that Coles had Petrie's exact data and criteria of starting points to follow through from to make measurements,
and yet Cole's measurements were all completely different on each individual side, to include the pyramid base North side with a **4 inch difference**!
Only their total **Khufu base average values** are close being 6 /10^{th} inch apart.
Something is wrong from the inception of many of these historic measurements to include most recently Mark Lehner who has even shorter measurements than Petrie.
So to base mathematic predictions and extrapolations from the **base length averages** of Petrie or Coles results, ignores the fact that they have calculated oddball pyramid bases.
Pyramid bases with completely uneven lengths which would need to have **EACH BASE LENGTH** explained in the context of **WHY** they are different from each other.
In Petrie's defense one can say that since his North and South sides are only 1 /10^{th} inch in difference, this infers a rectangular base pyramid, or one with just 3 slopes.

It is important to note here that the **Earth has 21,600 nautical miles** at the equator:
60 minutes x **360** degrees = {**21,600**} = Mars {**687 .27 27 27**~} **x Ancient Pi**.
Basically if you take the equatorial **radius of Earth / by the radius of Mars** = {**x**},
then {**x**} times the Earth year, you will essentially get the Mars sidereal. ←--note!
The best conclusion remains to utilize a "sacred geometry" model for the Khufu pyramid as a basis to construct such a monumental architectural masterpiece, or to incorporate the planetary timelines as defined with the Ancient Pi system and a pyramid base of **756** feet.
The Saturn synod is far more stable than the Mars sidereal, and thus it is the basis of the Khufu pyramid length {2 x 378}=756, and the Mars sidereal is an astronomical calendar count vehicle which connects all the rest of the planetary timelines into unity.
Essentially the long term purpose of using the Ancient Pi value {**3 .14 18 18 18**~} is to be able to introduce it in both of the **theoretical Khufu rectangular pyramids**, **and also to employ this in Menkure pyramid geometries in rectangular pyramids.**

The Menkaure pyramid will have a slope of approximately **51** degrees,
derived from arctangent {**1 .234567901**~} = {200 / by **162**}.
The value {**1 .234567901~ / by 2**} = the inverse of Ancient Calendar Count Phi {**1.62**}!

{**1 .234567901~**}~ **x** {**9 .876543209~**} = {**8**}.

The value {**9 .876543209~**} **x** Ancient Calendar Count Phi {**1.62**} = {**16**}.
Therefore:
{**9 .876543209~**} x {**1.62**} = {**16**} = Ancient Egyptian Phi x Ancient Pi squared,
where Ancient Phi = {14 /11} squared = {1 .619834711~} = {196 / by 121}.

Final extrapolations with these values: {**2 .618 18 18~**} **and** {**3 .14 18 18 18~**}.

{**261 .81 81 81~**} **x 99** = {**25920**} = {72 x 360 Calendar} = {20 x Kemi base 1296}
Then:
{**261 .81 81 81~**} x **12** = {**3141 .81 81 81~**} = {1000 x 3.14 18 18 18~},
and:
{**3141 .81 81 81~**} **x 99** = {**311040**} = {12 x **25920**} = {**311040**}←---note.
where:
{**311040**} = **144 Ancient Pi** x Mars {**687 .27 27 27~**}!

{**311040**} **/ by** Saturn synod {**378**} = Ancient Pi x {**261 .81 81 81~**},
and:
{**311040**} = **4800 Royal Cubits x Ancient Pi**
Or originally without decimal variation:
{**314 .18 18 18~**} **x 99** = {**31104**}, = **480** Royal Cubits x Ancient Pi.

Rectangular pyramids can optimize other Ancient Pi values with the 756 foot base,
like Pi value {**Sqrt800 / 9**}= {**3.142696805**}.
This Pi value is attached to modern Sqrt2 and Ancient Calendar Count Phi {**1.62**}:
4 / by Pi value {**Sqrt800 / 9**} **= Sqrt** {**1.62**} = {**1 .27 27 92206~**}.
and: Sqrt {1.62} / by 9 = modern Sqrt2 / by 10.

A rectangular pyramid uses "Harmonic Ancient Pi" = **h-aPi** = {**3 .14 25 36 47 58 69~**}.
4 / by h-aPi = {**1.27 285714 285714 285714~**}.
{**9.876543209~**} **/** by **Ancient Pi = Harmonic Ancient Pi** = {**3 .14 25 36 47 58 69~**}.

The beauty of these two resultant pyramid slopes and base lengths in a rectangular pyramid is that the difference in slope especially, and length of base is so small, that it would be impossible to detail out in measurements by Petrie and Coles with their admitted factors of error or spreads of possibilities.
Use Pyramid height {**481.09 09 09~**}**:**
With the Khufu slope first, the 3 slopes of these selections are respectively:
Khufu pyramid Ancient Pi slope = arctan{**1. 27 27 27 27~**} = {**51.84277341~**} degrees.
{**Sqrt800 / 9**} **Pi** slope = Sqrt{**1.62**}= arctan{**1 .27 27 92206~**} = {**51.84419346~**} deg.
Harmonic Ancient Pi slope = arctan{**1 .27 285714 285714~**} = {**51.8456135~**} degrees.

Khufu Corner Angle Tangent dynamics with alternate Ancient Pi

Note the three bold print choices above, at the bottom of the last page.

The Khufu pyramid as a square base pyramid uses modern sqrt2 as a constant multiplier for the base diagonal distance to center point, times one half the base.
Thus
Sqrt 2 x Saturn Saturn 378 = distance from base corner to base centerpoint.
This is the case in any **square base pyramid**.

This created a slight problem in calendar count,
in that the resultant tangent of the pyramid corner to the pyramid peak as an angle is**:**
{**0.899954085**} instead of {**0.9**} = {**9 / 10**}.
With {**9 /10**} as a tangent we would have a beautiful selection of planetary harmonics and cosmologic system numbers available for perfect application**:**
18 squared = **324**, and {**324 / 360**} = {**9 / 10**}.
18 / by Ancient Pi = **1000 Royal Cubits /** by {**360**} Calendar Count ←-------!

With {**0.9**} = {**9 / 10**} as the corner angle tangent, all the Mayan cosmologies align therefore through the pyramid Corner Angles, while simultaneously integrated with Ancient Pi mathematics in the pyramid Side Face angles.
Dresden Codex **702 /** by Mars synod **780** = {**9 / 10**}.
Mayan Long Count Jupiter {**4333 .33333**~} x {**0.9**} **=** {**3900**} = **5 x 780** Mars synod.

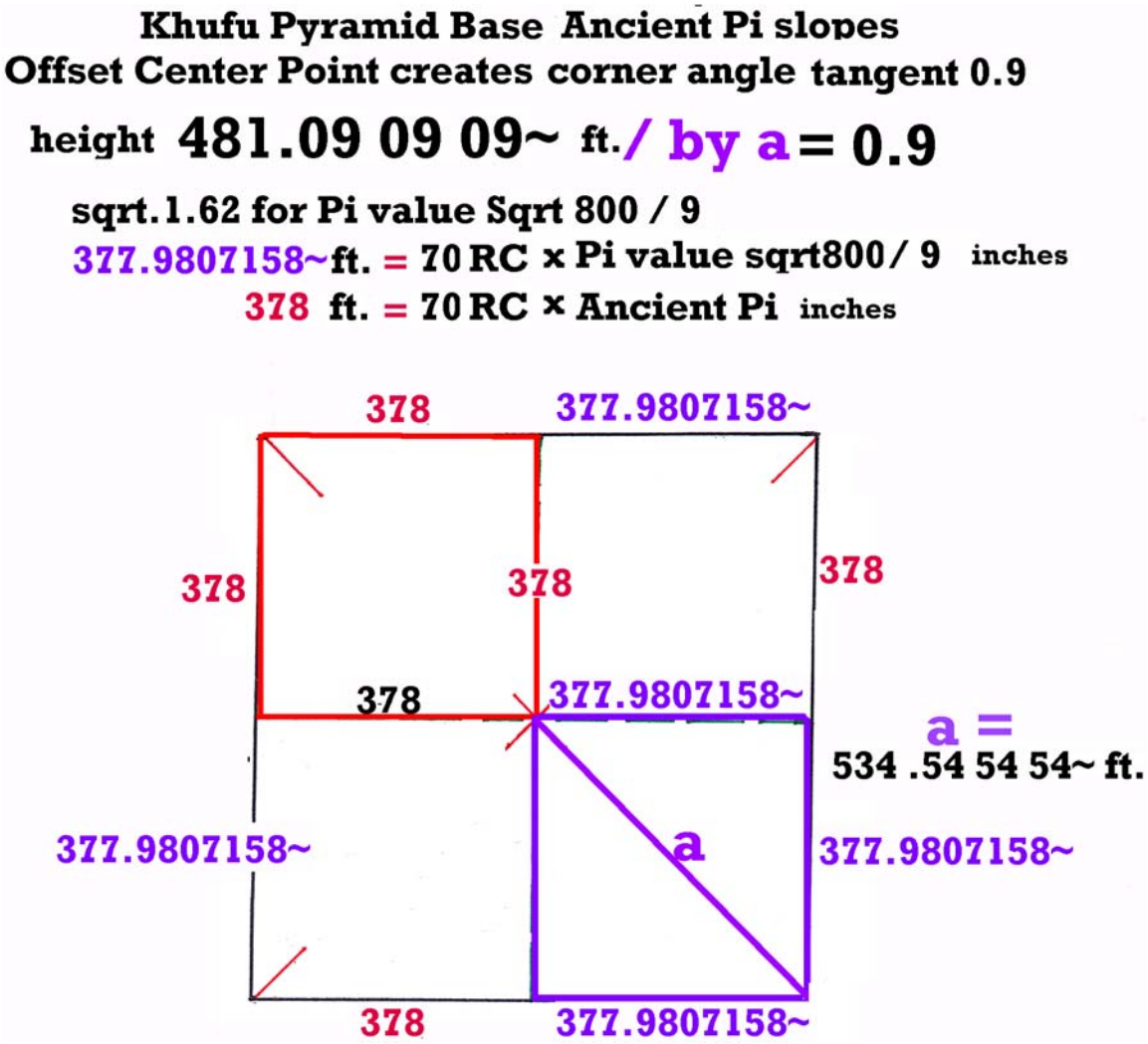
Thus one close method of solving this uses Harmonic Ancient Pi:
Harmonic Ancient Pi slope = arctan{**1 .27 285714 285714**~}.
Height {**481 .09 09 09**~} / by {**1 .27 285714 285714**~} = {**377 .961432506887**~}**ft**.
This base length is then: **140 x h-aPi x Royal Cubit** = 9071.07438 inches.

Thus exacting the mathematics for the corner angle tangent in a rectangular pyramid with the Ancient Pi slope {**756** ft. base} and **h-aPi** slopes we almost get to exactly a perfect corner angle with a tangent of {**0.899999997657465**~}**!**
Well it isn't perfect so to still get a perfect {**0.9**} corner angle tangent with a **square base** one will have to use half base length Saturn {**378**} x Calendar Count Sqrt {**1.62**},
for height of **481.1154539** ft.

A major problem with Coles and Petrie Khufu pyramid bases is this:
Petrie has a base with almost exact equal sides as the **North and South** sides,
to within only {**0.1**} inch.
Coles has a pyramid base where the **East and West** sides are more close to equal.
The ideal would be to have **378** feet as opposing base lengths **North and South**,
then the other two above lengths just detailed as the **East and West** sides,
and this would then create the almost perfect **Petrie pyramid**, but it will just not work as far as I can determine mathematically because different lengths are encountered from base center point to the center of the base side length in relation which are parallel to the actual base perimeter side lengths due to the polygonal nature of the base not being square or rectangular.

However a square base pyramid with the original height of {**481.09 09 09**~ft.}
using the two choices of Ancient Pi tangents:
{**14 / 11**} = {**1.27 27 27 27**~} and **Sqrt**{**1.62**} = {**1.27 27 92206**~},
creates a perfect pyramid base as shown below,
that utilizes a slightly **OFFSET CENTER POINT**
to accomplish the desired corner angle tangent of {**0.9**} in the bottom right quadrant.

The point of this exercise is a dual strategy in pyramid bases.
One is to example the possibility of creating a perfect corner angle tangent of {**0.9**},
and the other is to show that by **offsetting center points** for the pyramid peak,
one can possibly use this strategy in a pyramid base with **ALL uneven base lengths**
which will be attempted in the next section.



Khufu Pyramid with Petrie and Coles style bases created:

The rectangular pyramid used a "harmonic code" value for Ancient Pi
with the true value of Ancient Pi to work together.
These were of course {**3 .142857 142857**~} and {**3 .14 18 18 18**~}.
This Ancient Pi relationship with a "harmonic code" value is not exclusive.
In the upcoming section on the Menkaure pyramid, the angle of approximately
51 degrees will be defined by arctangent of {**1 .23456790 123456790**~}.
This replicating decimal is part of an equation that equals the number **8**:

{**9 .87654320 987654320**~} **/ by** {**1 .23456790 123456790**~} = **8** exact.

The Egyptians could certainly have known of this in their own cosmologies by virtue
of the simple but important equations:
{**1600**} **/ by** Egyptian Kemi base value {**1296**} = {**1 .23456790 123456790**~} = **200 / 162**
{**1600**} **/ by** Calendar Count Phi {**162**} = {**9 .87654320 987654320**~},
{**1600**} = {**14 / 11**} squared x **Ancient Pi** squared x 100,
where {14 /11} = {1 .27 27 27 27~}.
Important:
These two values are abbreviated as such: {**1 .234567901**~} and {**9 .876543209**~}.
2 / by {**1 .234567901**~}= Calendar Count Phi {**1 .62**}, **16 /** by {**9 .87654321**~} = {**1 .62**}.

Therefore a more refined "**Harmonic Ancient Pi**" value emerges to create slope:
{9 .87654320 987654320~} / by **Ancient Pi** = **Harmonic Ancient Pi.**
Harmonic Ancient Pi = {**3 .14 25 36 47 58 69**~}, {note progression in the decimal},
Therefore:
4 / by {**3 .14 25 36 47 58 69**~} = {**1 .27 285714 285714**~} = {**51 .8456**~} degrees.
Note that the slope tangent {**1 .27 285714 285714**~} = {**891 / 700**}, and 891 = 11 x 9 x 9.
Note also that:
{**1 .27 285714 285714**~} x Khufu tangent {**1 .27 27 27** ~} = Calendar Count Phi {**1.62**}!

Pi value {**3 .14 25 36 47 58 69**~} gives the Khufu base another base length opportunity to
create the above additional 3rd slope of {**51 .8456**~} degrees and resultant base length**:**
{**9071.074379**} inches = **140 Royal Cubits x** Harmonic Ancient Pi.
{**9071.074379**} inches = **140 Royal Cubits x** {**3 .14 25 36 47 58 69**~}.

Base lengths can be achieved by fractional values that the Egyptians may have used:
3 and {**162 / 1144**} = {**3 .141608392**~},
and {**162**} = 100 x Calendar Count Phi, and {**1144**} = **364 Ancient Pi,**
{**3 .141608392**~} achieves a base length of {**9068 .395424**} inches using the original
height of the Khufu Pyramid of {**481 .09 09 09**~} feet.
Though it is doubtful the Egyptians understood this next value,
they may have recognized it: {**355 / 113**} = {**3 .14 159292**} extremely close to modern Pi.

Then there is the Pi value associated with modern Square Root 2, and 9:
Sqrt 800 divided by **9** = {**3 .142696805**~} = {**4 .444444**~} **/** by modern **Sqrt2.**
This creates a base length of {**9071.537178**} in. = **140 RC** x Pi value {**3 .142696805**~}.

Likewise as well Pi value{**3 .142696805**~} = {**2.222222**~} x modern **Sqrt2.**
This Pi value is directly attached to the **Square Root of Calendar Count Phi 1.62**:
4 / by {**3 .142696805**~} = **Sqrt** {**1.62**} = {**1 .27 27 92206**~} = {51 .84419~} degrees.

The slope applied to the Khufu pyramid height {**481 .09 09 09**~} feet:
with Pi value {**3 .14 18 18 18**~} and arctangent {**1 .273 148 148**~} = 51.851976 deg.,
creates base length = **140 Royal Cubits** x Pi value {**3 .14 18 18**~} = 9069.000993 in.

So one can apply **4 distinct slopes to a Khufu pyramid in an experimental model**
that also use the corresponding Pi values to each new base length as shown.
This would accommodate the oddball Petrie and Coles measurements,
which were unfortunately at odds with each other per side observed in the data.
Coles did measure one Khufu base length that just exceeded **756** feet.
This being the largest base measurement in all the studies reviewed,
it was also the greatest in difference to Petrie's measurements per same side.
It is safe to say that **756** feet is then the optimum high end value to work from,
with a set height of **481.09 09 09**~ft.,
to incorporate the predominant Pi values obtained in calculations which then yield
multiple slopes and uneven base lengths all less than the standard **756** feet seen in
Petrie's measurements, or even Lehner's shorter than 756 foot dimensions.

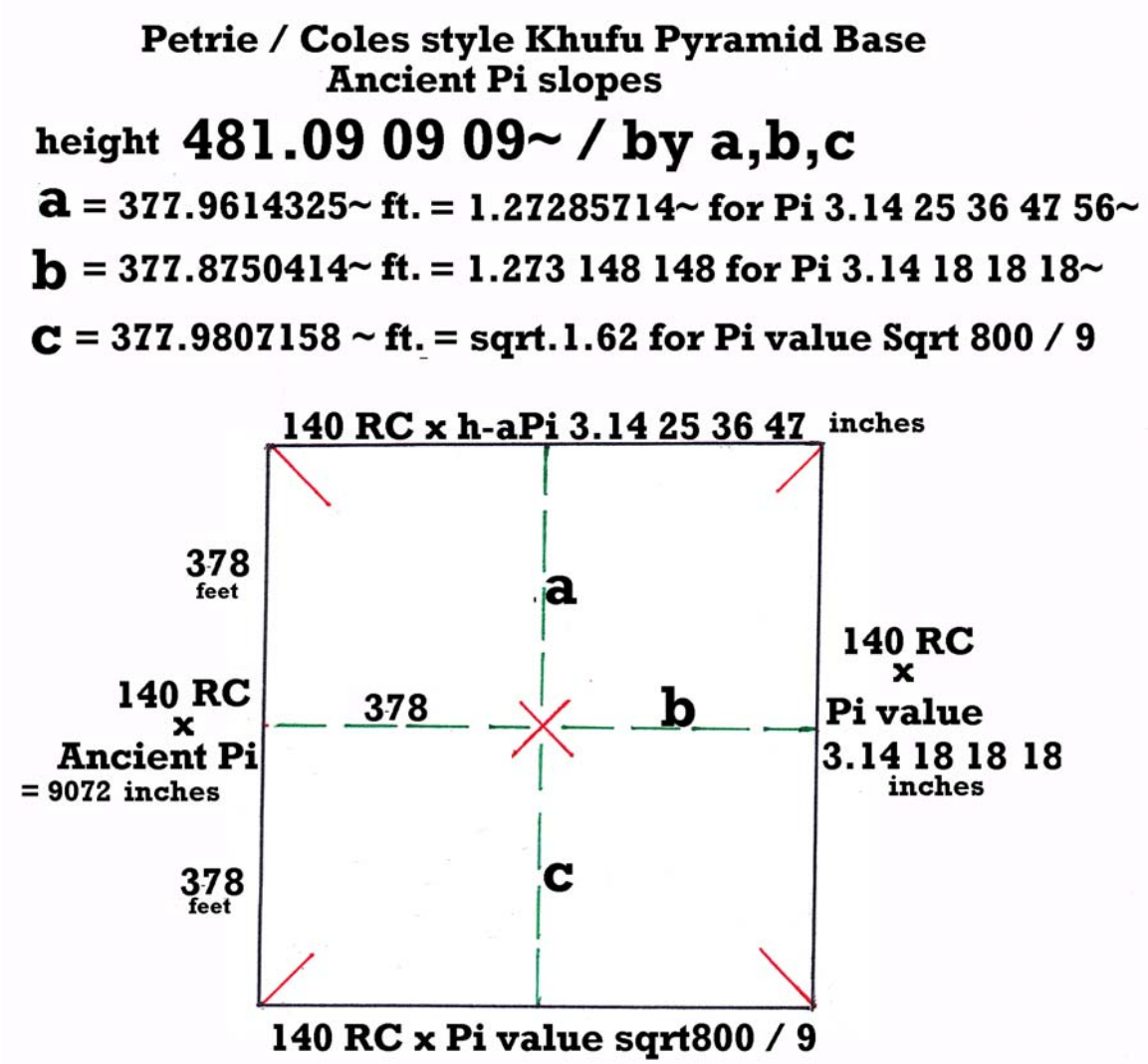
Four to five solid Pi candidates emerge as applicable to this process, just shown above.
A problem emerges however just creating a base with uneven sides using the 4 choices.
The base lengths conform perfectly to the corresponding Pi values and the Royal Cubit,
but the actual lengths that the height uses to create the slope mathematics are different
because these lengths are the central bisectors of the pyramid Side Faces
and as such are perpendicular to the base lengths and have slightly different lengths.

It could be that the shifting of the center point with the oddball polygonal base
can still accomplish the same slopes identified with the corresponding base lengths,
or a new common height would have to be found which actually may not be possible.

The other option is to:
set the 4 lengths from the pyramid base centerpoint to each centerpoint of each Side Face
as exactly HALF the base lengths of the 4 choices I will employ.
With the set height of the Khufu pyramid of {**481 .09 09 09**~}ft. then we are guaranteed
of the corresponding selection of Ancient Pi slopes.
The base lengths will then be set correspondingly as well.

The last problem that occurs with this method is that no matter what combination you
attempt, there will always be one base length that may come up as anomalous to the
applications of the Royal Cubit and an Ancient Pi value that is in harmonic code.
I.E., it doesn't work perfectly either, or I can't find the exact combination.
This implies that the totally uneven based Khufu pyramid measurements
by Petrie and Coles are grounded in a minutia of faulty interpretations and applications of
measurement criteria. Also to note is that two of Petrie's sides are almost exact.

So first the Khufu pyramid bases with uneven bases will be shown as a comparison using the Ancient Pi values that utilize the Royal Cubit to attain the base lengths.

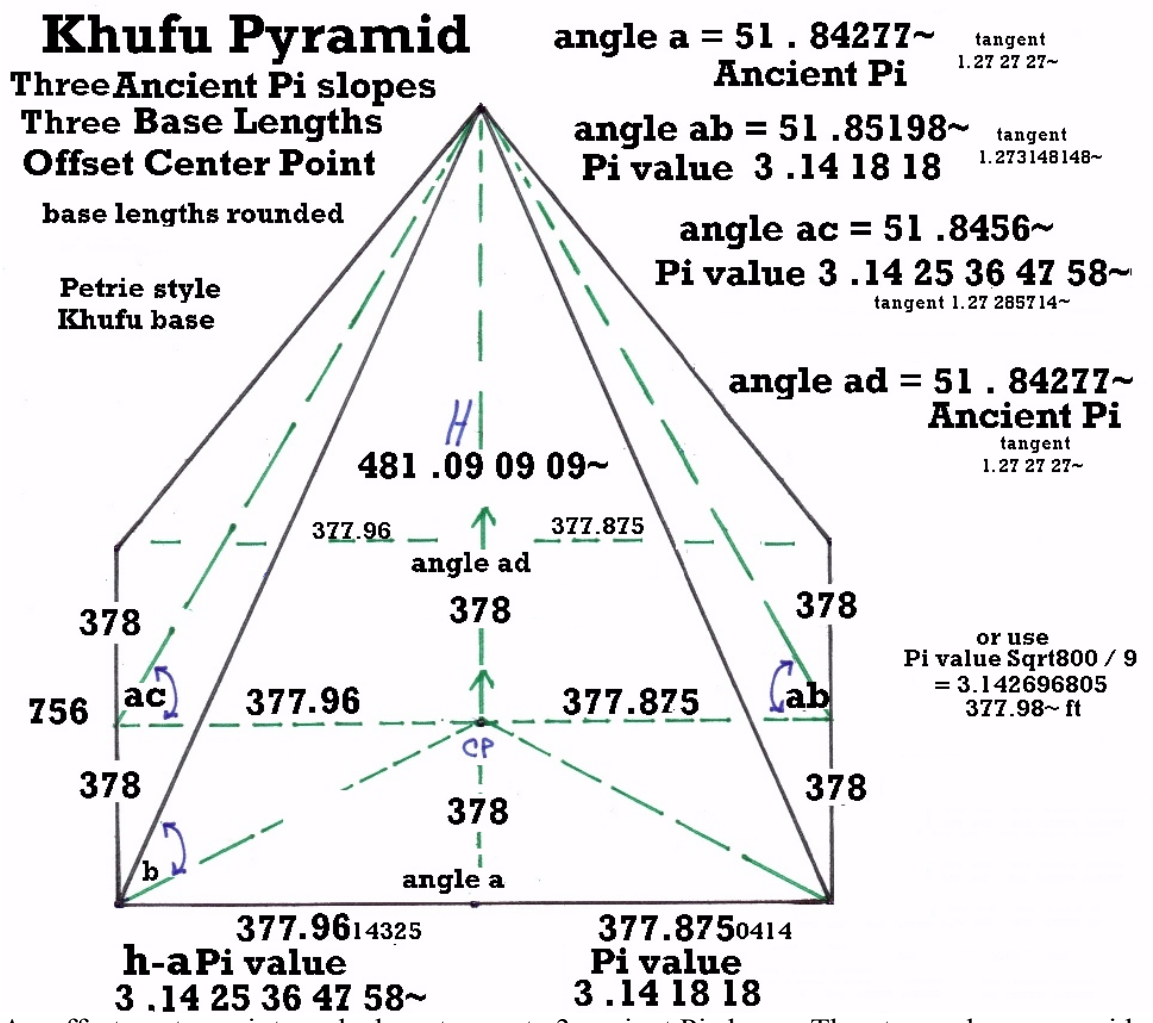


The interior set of **a,b,c, and 378 feet** with a height of **481 .09 09 09 ft**.
will guarantee a **4 slope pyramid** that creates a certainty for Petrie / Coles style uneven base length pyramids. It may not however guarantee the exact base lengths as shown. The convoluted aspect of trying to decipher the exact lengths from a polygonal base with the endless decimals is …endless, and suffice it to say the results predicate that this form of pyramid base is unlikely but not impossible.
Conversely, if you just adapt the base as shown, and work those numbers to the height, it will most likely altar that height, or **off setting of the center point** may break the solution open. For me to attempt to extrapolate exactitudes beyond this would be an exercise in frivolous endeavors due to the fact that Coles and Petrie were errant amongst their own measurement data to such a high degree per side measured and compared.
One could also take Coles largest base length measure of just over **756** ft. and align it: {**756 .03875 3875**~} and using {**14 / 1**1} as arctangent for the height: {**481 .11 54 54**~}ft. That height, when coincidentally divided by Sqrt Calendar Count Phi or S**qrt**{**1.62**}, creates a side with exactly **378** feet, but this base also makes two sides over **756** ft.

Therefore the primary goals of identifying possible slopes and pyramid base lengths that conform to Ancient Pi values that each utilize the Royal Cubit has been offered as a window to this possibility of answering not only the question of Lehner's rectangular pyramids most certainly with exactitude, but also a pyramid base with uneven sides and 3-4 slopes such as Petrie and Coles have unfortunately measured up for us.

So the pyramid below is in general characterized as a theoretic generality and as a display of the potential answers to these questions, and on the face of it has possible faults that may be correctable with centerpoint shifting or repositioning, or a new height.

This pyramid follows Petrie measurements: Petrie has two base lengths within {0.1} inches of eachother and these are assumed to be exactly even here as 378 feet.



An offset center point works here to create 3 ancient Pi slopes. Thus to produce pyramids with the total 4 uneven base lengths combined with the 4 slope options may be too problematic to be practical to the Egyptians in the first place. One can also try to just add in a fourth base length and slope corresponding to Pi value Sqrt800 / 9, and sqrt1.62. Khufu base {**756**} / by **9** = {**84**}, and there are {**84**} Earth years in the Uranus sidereal, and this is off by only 4 days. Uranus sidereal **30685** = {**84**} x Earth {**365.25**} = **30681.**


The Khafre Pyramid
Khafre Ancient Pi and the Venus Sidereal
The Bent Pyramid
The Royal Cubit
Mayan Glyph 819
Khafre Pyramid Dynamics
The Venus Rotational Day
Modern Math Pyramid design
Ancient Math Pyramid design

Khafre Pyramid Dynamics – attempting to solve the Petrie conundrum

Khafre Pyramid: Petrie claims that the pyramid base carved bedrock is exposed as a definitive model to limit the measurements for the dimensions of the pyramid.
Mark Lehner offers **215** meters as a base length, and as usual his measurements are short.
Petrie's average or mean base length by metric conversion is **215.26** + meters.

Petrie's Khafre Pyramid base measurements:
North: **8471.9** inches = **705 .991666**~ feet
South: **8476.9** inches = **706 .408333**~ feet
East: **8475.2** inches = **706.666**~ feet
West **8475.5** inches = **706.291666**~ feet
The mean or average is **8474.9** inches = **706 .241666**~ feet. ←-----note.

In UHC Part I, I take a value of **215.25** meters for the Khafre base as seen in most publications, probably a rounded Petrie number, using metric conversion to calculate:
8474.4 inches = 706 .2 feet = Ancient Pi x exact NASA Venus sidereal of 224.7 days.

So, did the Egyptians know the exact NASA Venus sidereal, and did Khafre impose the Venus sidereal times Ancient Pi to equal the length to the pyramid base?
Perhaps, as they certainly profusely studied the movements of Venus,
with this planet being the most visibly important celestial object in the skies for ancient cultural observation derived into calendar count calculations and pyramid applications.
So looking at Petrie's average, and the standard length of 215.25 meters,
it is safe to say that at the very least these exposed carved bedrock base measurements conform to the **NASA average for the Venus sidereal, then x Ancient Pi**.
However Petrie then interprets that this is the "Intent" of the Egyptians to confine the complete Khafre Pyramid base measurements to the exposed carved base bedrock.
This can be an erroneous assumption as Petrie's calculations have often been refuted by other measurements, most notably with the Menkaure pyramid by Mark Lehner.
Anybody who has studied ancient timelines attributed to planetary movements knows that the **Venus sidereal** is calculated as calerndar count **225 days** ←----NOTE.
This value of {**225**} then aligns in calendar count to the {**360**} day Egyptian calendar**:**
16 x 225 Venus = 3600 = 10 x 360 Earth as the harmonic count cycle.
This will create a pyramid that **conforms to Khufu** style mathematics with Venus **225**.

Venus sidereal with the Khufu base:
756 feet / by 225 Venus sidereal = **3 .36 ←--note,**
{Then using floating decimal} **3 .36 ------→ 336 x Ancient Pi / 2 = Solfeggio 528,**
Incorporating the most important measurement: **336 x 5 Ancient Pi = 5280 mile.**

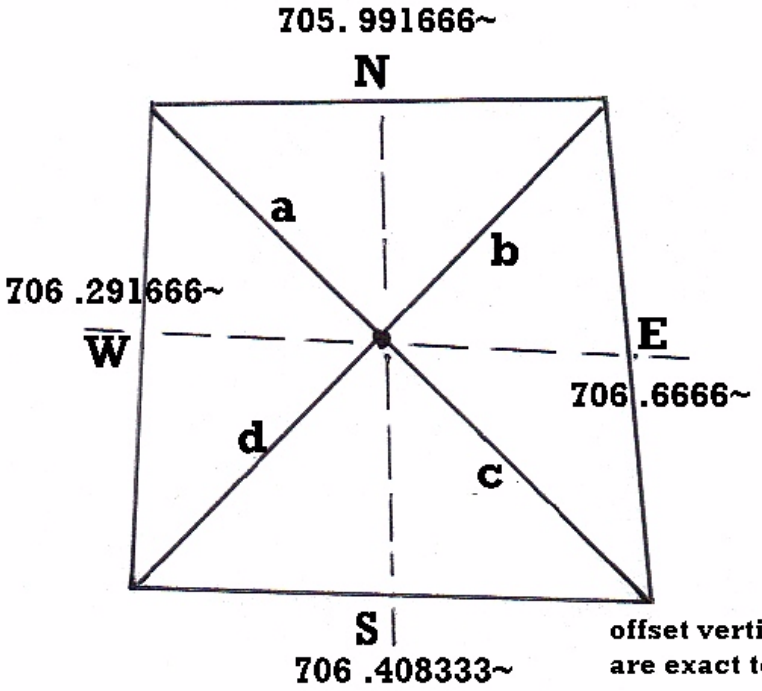
So one can construct a pyramid base confined to the interpretations of Petrie and Lehner with approximately the 706.2 feet length = Ancient Pi x Venus 224.7 days,
or one can look at the calendar count aspect of **Venus at 225 days x Ancient Pi**.
Now the Ancient Pi number system will extend through the entire pyramid perfectly.

The optimum application for a Khafre pyramid base using Ancient Pi is this:
Calendar Count **Venus** sidereal **225 x Ancient Pi =** {**707 .142857 142857**~} feet.
Note that this value converges in modern mathematics to {**707.1067812**~},
which is **1000 x** the sine&cosine of **45** degrees = **1000 x** the tetrahedral tangent {**1/sqrt2**}
and {**707.1067812**~}**squared = 500,000**. ←----note.
Note: that the value {**707 .142857 142857**~} x {**707 .07 07 07 07**~} = **500,000 exact**.

This is a fundamental process in my "**Ancient Pi** " **square root system** such that:
{**707 .142857 142857**~} multiplied with it's corresponding value {**707 .07 07 07 07**~},
become the "Ancient Pi square roots" of {**500,000**},
{**707 .142857 142857**~} x 2 = {**1414 .285714 285714**~}
{**707 .07 07 07 07**~} x 2 = {**1414 .14 14 14 14**~},
Ancient Sqrt 2 = {**1 .414 14 14 14**~} x {**1 .414 285714 285714**~} = {**99 / 70 x 140 / 99**}

Petrie's measurements may fall short on both the Khufu and Khafre pyramids due to improper criteria used to interpret Intent of Egyptian pyramid design with existing physical features in the observed base areas and pyramid construction. This is clearly evidenced by different measurements obtained by other competent researchers, such as IES Edwards who has the base length measurement at 707 feet 9 inches.
So to attempt to display Petrie's oddball uneven sides of the Giza pyramids, a base is designed below for the Khafre pyramnid with Petrie's measurements.
Clearly with one glance, the entire Petrie Conundrum reveals itself with grim results.
However, the two **Square Root 500,000** values can function as a **Rectangular Pyramid**.
Though I believe that these values **may** be the exact values used in the base,
I can only claim to use them **experimentally** to try and define a possibility of Petrie's confusing analyses in which he reveals his multiple uneven sides to the Giza pyramids.

Petrie Khafre Pyramid Base

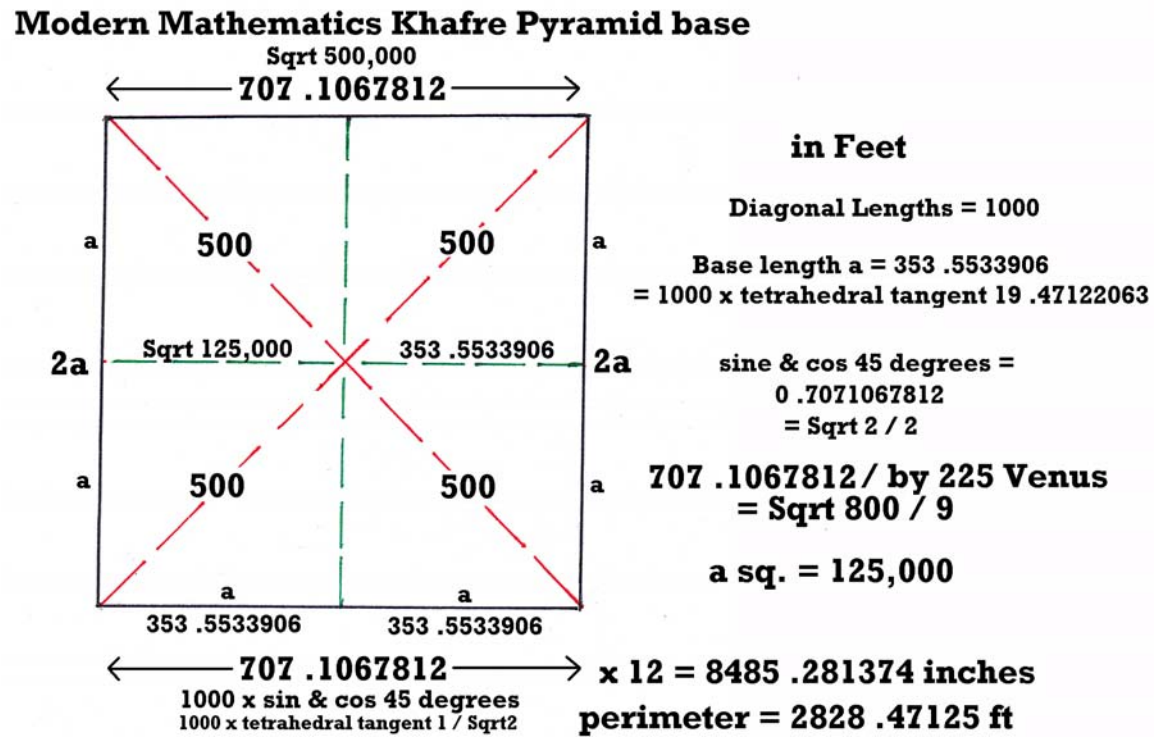


a = 499 .3175722
b= 499 .4502005
c = 499 .5974657
d = 499 .4648766

in feet

offset vertical and horizontal axes are exact to center points of sides

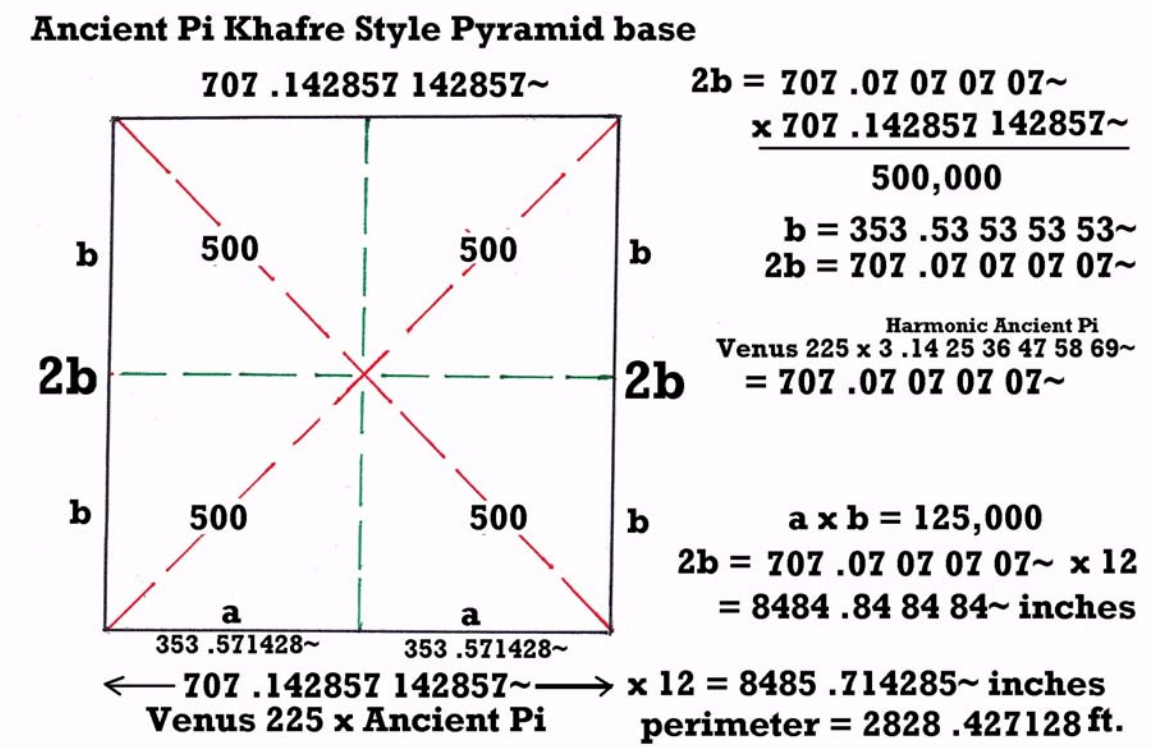
Petrie's above Khafre pyramid base has a lot to be desired indeed, and in a mild defense of his pyramid base, the full diagonal widths are almost precisely exact. However, even Petrie defines the pyramid side face geometry to follow the **3-4-5 triangle**, suggesting that indeed the Egyptians modeled their pyramids from standard sacred geometry models that can applied efficiently to Ancient Pi cosmology. Petrie's analysis and measurements will be steamlined later to be found acceptable.
Moving forward with Khafre pyramid conforming to Khufu dynamics:
Since we cannot ever firmly determine the true "intent" and exact true pyramid measurements, my following **diagrams** will be presented as **modern mathematical**, and **sacred Ancient Pi style** geometry pyramid bases and models, to show how modern geometry and the ancient geometries converge together in a cohesive comprehensive unified fashion. But at the same time these Egyptian cosmological pyramid diagrams will attempt to incorporate Petrie style anomalies in base lengths, and ultimately slopes. Thus a **rectangular base** is accomplished with two distinct base lengths as a test vehicle. The base lengths are all less than 1 foot in excess of Petrie's uneven measurements.



The following pyramid base on the next page will be the corresponding pyramid base geometry composed of Ancient Pi style mathematics to this modern math base above. Note that the square base perimeter of **2828 .427125** feet above = sqrt 8,000000, and that is almost exactly the same as the rectangular base of **2828 .427128** feet on the next page. ---→ The diagonal lengths differ as **500** above, to **500 .00000013** below ←----.

Take special note on the above diagram equation:
{**707 .1067812**~} **/ by** {**225**} Venus sidereal = **Sqrt 800 / by 9** = {**3 .142696805**}
This value of {**3 .142696805**} is the very important Pi Convergence value.

Ancient Pi Khafre Pyramid Base using calendar count Venus Sidereal



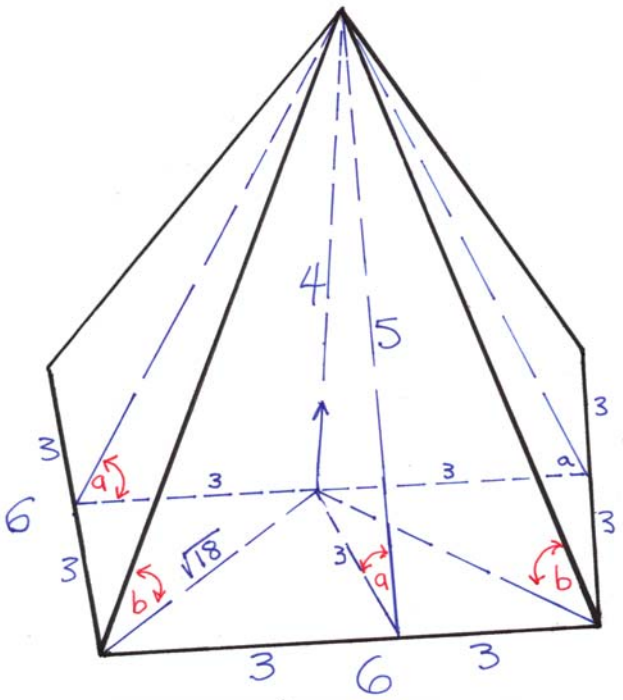
So, at least a competent base is created to accommodate the Petrie conundrum presented by measurements of uneven pyramid bases, and to facilitate a possibility therein that may explain these discrepancies. Petrie {and others} present Giza pyramid bases with all 4 uneven sides. A possibility of this using Egyptian Ancient Pi harmonics: **An Ancient Pi Khafre pyramid base** with **North and West sides as presented above, and then South and East sides with dimensions as such to accommodate Ancient Pi:** South: {**714 .285714 285714**~} and East: **700** even. There are other possibilities as well.

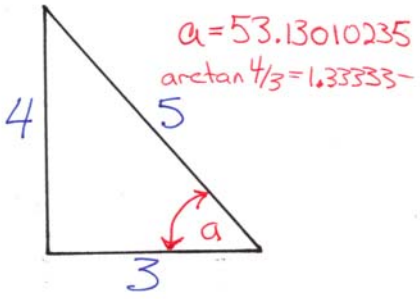
A crucial difference between the two pyramid bases is the diagonal to midpoint length. In the Ancient Pi style Khafre pyramid that actual length is **500.00000013** {rounded}. This mathematically produces a slightly different tangent for Side Corner Angle of this Khafre pyramid base as designed with the **assigned height**, as opposed to the modern geometry model pyramid base Side Angle that results with it's exact height.

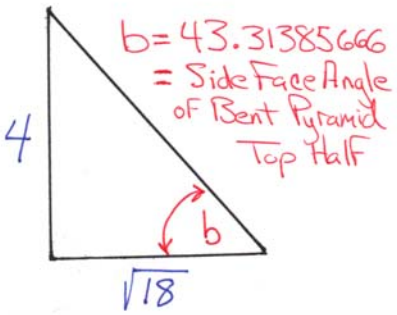
The **modern base** Corner Angle slope tangent is **Sqrt**{**8 / 9**} = {**0.888888**~}, and **Sqrt**.{**0 .8888888**~} is also the cosine of tetrahedral 19.47122063 degrees. **Modern base** Corner Angle slope tangent is **Sqrt**{**8 / 9**}for {**43.31385667**~} deg.

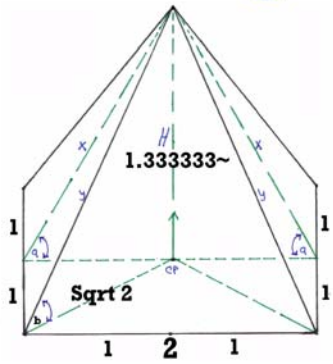
The **Ancient Pi rectangular pyramid base** creates a pyramid Corner Angle which calculates to be:
Sqrt{**0 .888979592**} = {**0 .9 428571 428571 428571**~} = {**43 .31531568**} degrees, and that uniquely conforms to the fraction {**66 / 70**}.
The Side Corner angle of the Khafre pyramid is the Side Face angle of the Bent Pyramid. **This will be addressed later on**.

Khafre Pyramid Geometry









b = arctan 4/√18 = 0.942809042

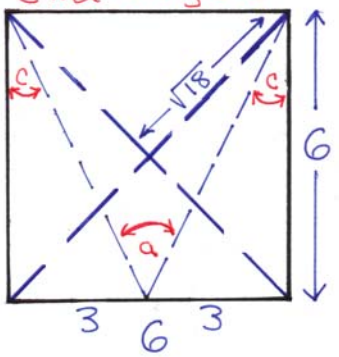
= artan 0.942809042 = **Sqrt {8/9}**

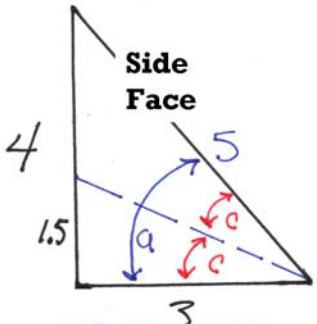
= Cosine 19.47122061 (tetrahedral) = **Sqrt {8/9}**

Khafre Pyramid Base

c=26.56505118

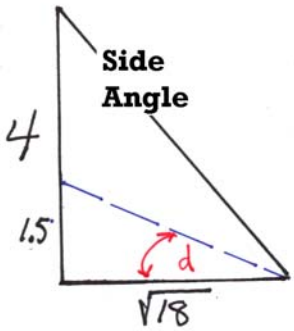
c x 2 = Angle a





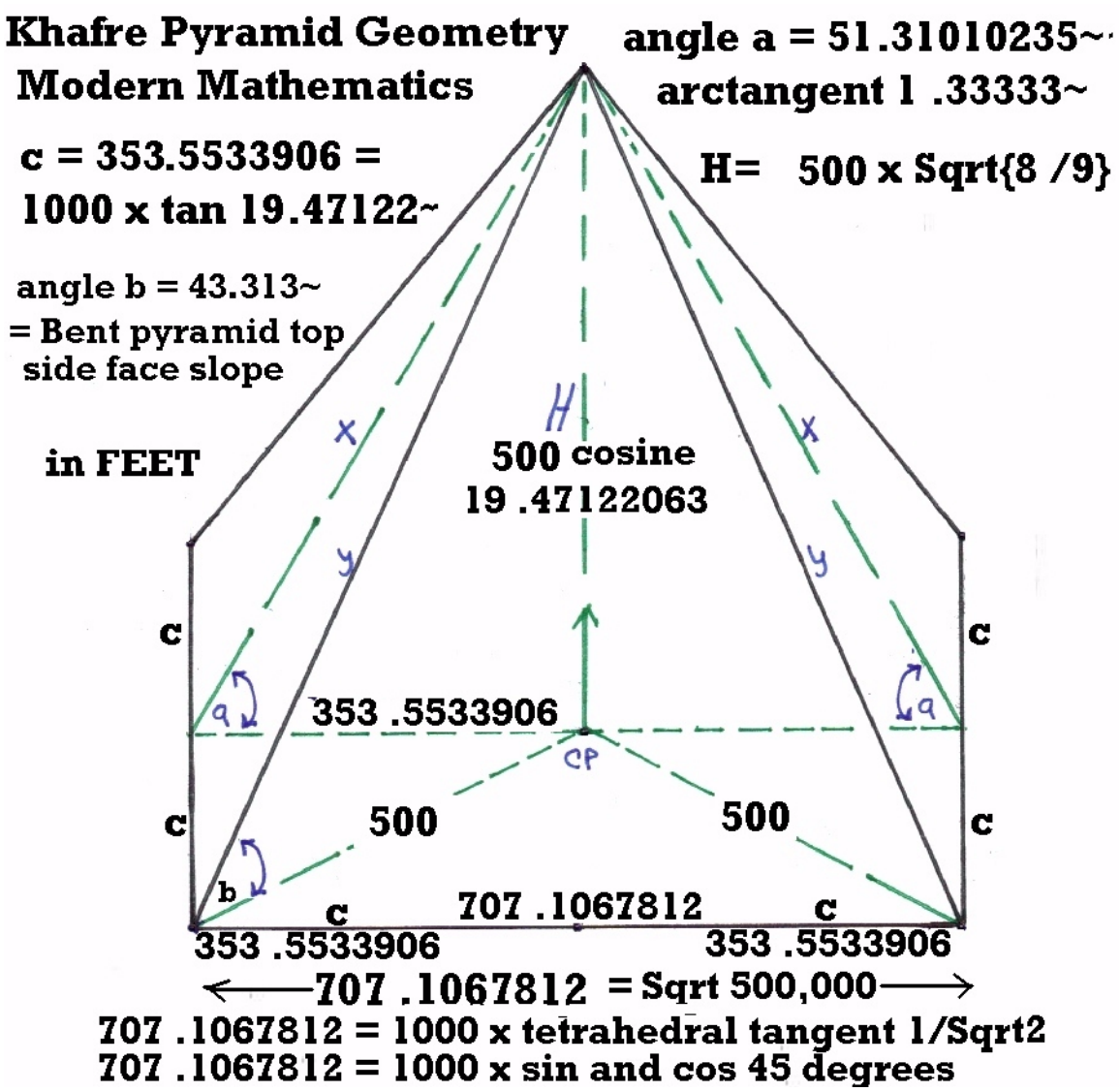
c=26.56505118

x 2 = Khafre slope



d = 19 .47122063

If you divide the Khafre slope angle Side Face of 53 .130~ degrees in half to 26.565~, it bisects the height of 4 units at 1 .5, not 2. Thus in the SIDE ANGLE, with that height of 1.5 units, the angle d is tetrahedral 19 .47122~ . This reveals the two angles of the highest degree of replicating geometry in **Dr Horace Crater's Mars Pentad studies**.



The **Side Corner Angle b** of this Khafre pyramid, is the same as the **Side Face** angle of the **top half of the Egyptian Bent Pyramid**, as Lehner's numbers closely indicate. The Side Face slope **TANGENT** of the upper section of the Bent Pyramid, is the exact **COSINE** of the tetrahedral angle of **19 .47122063 degrees.** The cosine of tetrahedral {**19 .47122063**} **degrees = the Square Root of** {**8 / 9**}. **The Bent Pyramid Side Face** slope tangent is the **Sqrt of** {**8 / 9**} from this above model. **Square Root of** {**8 / 9**} = **Sqrt** {**0 .888888**~} and computes to {**43 .31385664**~} degrees**.** In the below Khafre Ancient Pi rectangular base pyramid the **Side Corner Angle** is: found in the fraction {**66 / 70**} = {**0 .9 428571 428571 428571**~} = {**43 .3153**~} degrees. The actual upper section Bent Pyramid Side Face angle, being identical to the Khafre Side Corner Angle is clearly evidenced in Mark Lehner's measurements. Though his angles for the Bent and Khafre pyramids are slightly short of the ones described here, it becomes quite obvious that from the sacred geometry perspective of both these pyramids diagrams presented that the angles suggested are the only possible intended Egyptian designs. The fraction **66 / 70** adds an interesting perspective to mathematics.

Khafre Ancient Pi and Venus Sidereal Royal Cubit Pyramid

--→ Utilizing Harmonic Ancient Pi ←--

A process must be explained at this point to accommodate the following pyramid diagram on the next page for this Ancient Pi design of the Khafre pyramid.

The purpose of introducing "Harmonic Ancient Pi" here,
is to show how cosmological numerologies based Egyptian Ancient Pi
correlate the Venus sidereal of 225 days into the base length designs which have been
created to offer possibilities to the Petrie conundrum of uneven pyramid bases
that he {and others}measured in the pyramids at Giza.

The primary base length of {**707 .142857 142857**~}
functions as Venus sidereal **225 x Ancient Pi**.

The alternate base length of {**707 .07 07 07 07**~}
functions with the Venus sidereal **225** and "**Harmonic Ancient Pi**" = {**h-aPi**}:
Venus {**225**} x {**h-aPi**} = {**707 .07 07 07 07**~}
Venus {**225**} x {**3 .14 25 36 47 58**~} = {**707 .07 07 07 07**~},
note the decimal progression increase of 11 units in {h-aPi}.

This value was first displayed in the original Universal Harmonic Codes pdf,
and an explanation is tendered forth using the **Menkaure slope tangent,**
and replicating decimal systems with the number 9 and Ancient Pi numerology.

The Menkaure pyramid Side Face slope is known as approximately **51 degrees,**
and the most applicable slope tangent is {**1 .234567901**~},
which follows this equation process**:**
{**10 / 9**} = {**1 .1111111**~}, and {**1 .1111111**~} squared = {**1 .234567901**~}
Therefore:
{**1 .234567901**~} is replicating decimal {**1 .23456790 123456790 123456790**~},
and in Universal Harmonic Code with {9 .87654320 987654320~}:
------→{**9 .876543209**~} **/ by** {**1 .234567901**~} = exactly **8**. ←------
Where: {**9 .876543209**~} = {**16 / by 1.62** as Calendar Count Phi}.

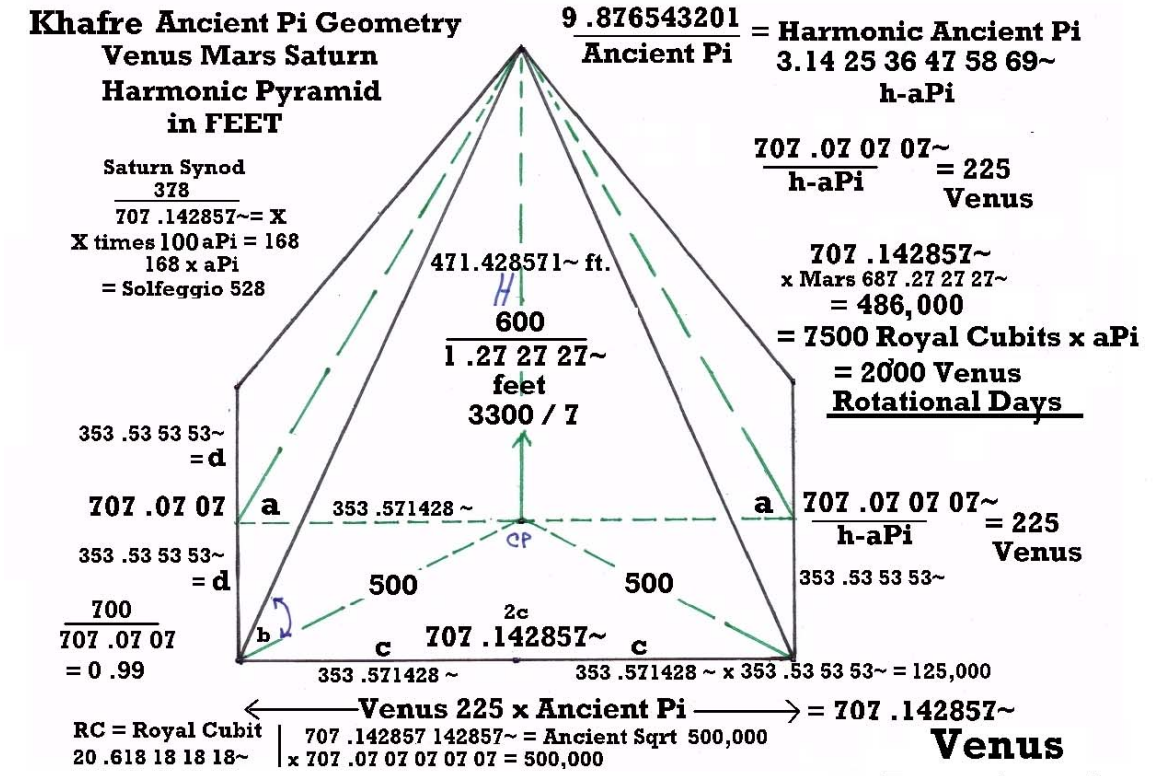
{**9 .876543209**~} **/ by Ancient Pi = Harmonic Ancient Pi =** {**3 .14 25 36 47 58**~}.

Venus {**225**} x {**3 .14 25 36 47 58 69**~} = {**707 .07 07 07 07**~}

In the Khafre pyramid below **The Royal Cubit** reveals the **Venus Rotational Day**
of **243** days as a key function in the base and height lengths in inches.
The beauty of the Venus Rotational day is that **243** is a perfect harmonic value
in the Egyptian numerologies and Ancient Pi system and the Mars sidereal:
2 x 243 = 486 = {9 x 54}, and 4 x 243 = 972 = {18 x 54}:
and the **Mars sidereal** uses the **"Ancient Square Root Two"** system with these values**:**
486 x {**1 .414 14 14 14**~} **= Mars** {**687 .27 27 27**~}, then x {**1 .414 285714**~} = **972.**
OR: 243 x {**2.828 28 28 28 28**~} **= Egyptian Mars sidereal** {**687 .27 27 27**~}.

Khafre Ancient Pi and Venus Sidereal Royal Cubit Pyramid

Utilizing Harmonic Ancient Pi



8484.84 84 84~ inches = 707. 07 07 07~ ft

= 2800 Mars sidereal / 11 Royal Cubits = 100,000 Royal Cubits / 243 Venus = 2700 x h-aPi

= 12 .34567901~ x Mars = 6666 .66666~ x 14 / 11

Venus Rotational Day = 243 days

angle a=53 .130~ arctan 1.33333~

8485 .714285~ inches = 707 .142857~ ft.

= 486 x 360 Earth / Royal Cubit = 26666 .66666~ / h-aPi = 10 MLC / 702 h-aPi = 2700 aPi

b = 43 .3153~ {600/Sqrt aPhi} / 500

Height = 5657 .142857~ inches = 480 x 243 / by Royal Cubit

c times d ={x} = 125,000
Sqrt. {x} = 353 .5533906
= 1000 x tangent 19 .47122063

c x Mars 687 .27 27 27~ = 243000
1000 Venus Rotational Days !

H x 10 RC =1166400= 5184 x 225 Venus {H in inches}

707 .142857~ x RC = { 54 x 270}

2H in feet x 687 .27 27 27~= 648,000
= 20 .618 18 18~ x 10000 Ancient Pi

b = 43 .3153~ {600/Sqrt aPhi} / 500

angle a=53 .130~ arctan 1.33333~

NOTE: {8484 .84 84 84~} = 10 x {1 .234567901~} x Mars {687 .27 27 27~}

{8485 .714285~}= 10 Mayan Long Counts / by {Mayan Dresden Codex 702 x h-aPi}.

HEIGHT inches: {5657 .142857~} = 1800 Ancient Pi = 324 x 360 Earth / by R. Cubit

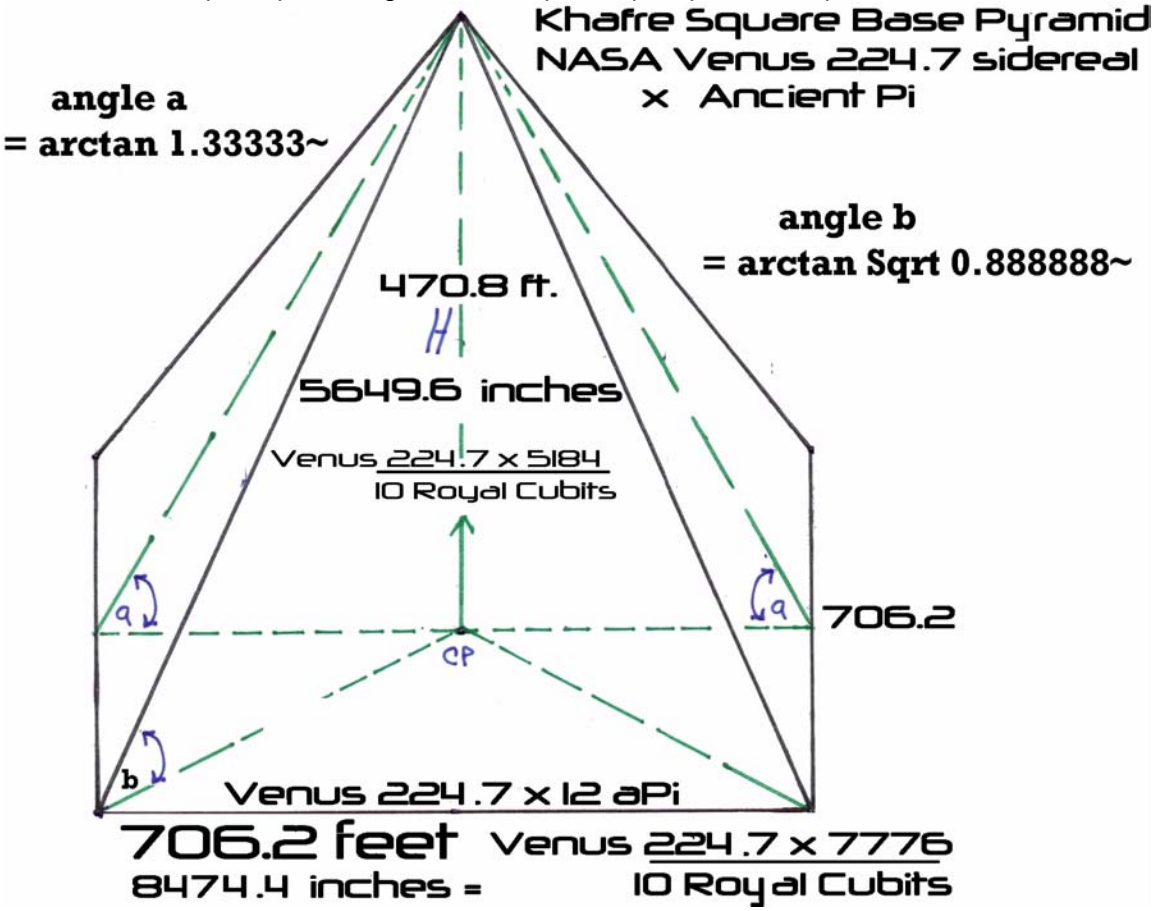
HEIGHT inches: {5657 .142857~} = {0.833333~} x Ancient Pi sq. x Mars 687 .27 27~
where {0 .833333~} = Mayan Venus 585 / by 702 = {Phi sq. / by uPi}.

Khafre Square Base Pyramid with Exact Venus Sidereal 224.7 days

The most frequently seen length of the Khafre base is **215.25** meters,
and metric conversion is **3.2808399** feet per meter, giving us **706.2007885** feet.
NASA has the Venus sidereal at **224.701** days.
What I found that cannot be a coincidence, which is that using metric conversion,
and **706.2** feet only we get the equation: **Venus 224.7 x Ancient Pi** ={**706.2**} feet.

So essentially I have rounded **224 .701** to **224.7** days, and **706.2007885** to **706.2** feet.
Certainly this is acceptable,
NASA cannot prove an average sidereal in difference of 1/1000 days = **1.4**4 minutes.
The difference between the feet measurements of the base is {**0.009**} inches.
THE POINT, is that no matter what the exact numbers are:
the base length of the Khafre Pyramid is **Ancient Pi x Venus sidereal**.
Base length {**706.2**} ft. = {**8474.4**}inches =Venus{**224.7**} x {**12 Ancient Pi**}.
Base length {**706.2**} ft. = {**8474.4**}inches =Venus{**224.7**} x {**7776 / by 10** Royal Cubits}.
This can also be looked at as: 7776 Venus Sidereal cycles / by 10 Royal Cubits.
{7776}=2475 x Pi value {3 .14 18 18 18~} = {6 x 1296} = {120 aPi x RC}.
{7776}= Mars {687.27 27 27~} x Earth{360} x {aPi / 100}.

Using the pyramid base length {**706.2**} feet and arctangent {**1.333333**~} for slope:
The height:{**149.8 aPi**}ft. = **5649.6** in. **= Venus 224.7 x** {**5184 / by 10 Royal Cubits**} !!
Note the value {5184} = 72 squared, and {51840} = {144 x 360}.



The Egyptian Bent Pyramid geometry – Top Section
Mayan Glyph 819, and Incorporating The Mars Jupiter Synod

Earlier I introduced the Ancient Pi cosmological count system value for the theoretical Mars Venus synod and how this worked with the Khufu pyramid. The Mars Jupiter synod works with the Khufu pyramid as well, but it also is superbly presentable in the geometry of the top section of the Bent Pyramid.

To accomplish a proper display of the Bent Pyramid upper section,
the **Mars and Jupiter synod** will be approached in sufficient detail for this task.

The Mars-Jupiter synod is valued as an average by **NASA** at **816.5** days.

In my first Mars Pentad document the **Mars Jupiter synod** is identified within the tetrahedral geometry the Mars Pentad mounds create mathematically,
by using the floating decimal system. The Mars Pentad mounds geometry creates a fundamental length value of **Sqrt**{**0 .6666666**~} or Sqrt.{2/3}.
Sqrt {**0 .6666666**~} = {**0 .816496581**}--→floating decimal---→ {**816 .496581**}{days}.

Looking at Mayan Long Count cosmologies, the Mayan glyph for **819** emerges as a perfect number that **bridges** to the Egyptian Ancient Pi count system.
It is quite likely that ONE of the functions of glyph **819** is to account for the Mars Jupiter synod within the Mayan Long Count.
Note: **819 = 21 x 39**, Mars synod **780 = 20 x 39,**
Solfeggio **741 = 19 x 39,** and Dresden Codex **702 = 18 x 39**. {multiples of 39}.
Mayan Glyph **819 /** by Mars synod **780 =** {**1.05**} **=** Saturn synod **378 / by 360.**

Connecting Mayan and Egyptian Cosmology to Mayan Glyph 819.
{**819**} x **20 Royal Cubits** = Mayan {**702**} x Khufu pyramid height {**481 .09 09 09**~}.

Mayan Long Count **1872000 / by 819** = {**2285 .714285 714285**~}
{**2285 .714285 714285**~} x **225** Venus sidereal = {**3,600,000 / by 7**}.
{**2285 .714285 714285**~} x Mercury {**88**} sidereal = **64,000 Ancient Pi**.

Mayan glyph **819 /** by Khufu base length **756** = {**1. 0833333**~} = {**195 / 180**}.
{**819 / by 756**} = **Mayan Dresden Codex 702 / by Egyptian number 648!**
where: 648 = 10 Ancient Pi x the Royal Cubit {**20 .618 18 18**~}.

Mayan Long Count **1872000 / by 819** = {**2285 .714285 714285**~} = {**16000 / 7**}.
{**2285 .714285 714285**~} x Khufu base {**756**} = {**172800**} = 40,000 aPi / by 55.
{**2285 .714285 714285**~} x Saturn synod {**378**} = Egyptian number {**864,000**}.
And:
{**864,000**} **/ by** Egyptian number **25920 = 33 .33333~ =** {**687 .272727 / Royal Cubit**}.
The above equations should suffice to indicate the versatility of Mayan astronomical glyph **819** as a perfect bridge to Egyptian Ancient Pi. Now note: {**819 / 13**} = {**63**}.

819 solved the problem of the Saturn synod **378** in Mayan accounting.
{Saturn synod **378 /** by **819**} = {calendar count **360 /** by Mars synod **780**}.
819 has a very important convergence into modern math constants with the Venus synod:
819 / by 585 Venus synod = {1 .4} = {Phi x e} / by Pi in convergence dynamics.
819 / by Tzolkin 260 = {3 .15} = {99 / by 10 Ancient Pi}
or using this ancient **99** count system:
{**99 / by 63**} = {**Ancient Pi / 2**}, where **63** = the above {**3 .15**} **x 20.**

---→ Mayan Glyph 819 = 13 x 63 ←-----63 is the key value into the Egyptian math.
Our original equation:
Mayan **L**ong **C**ount **1872000 / by 819** = {**2285 .714285 714285**~}
And: {**2285 .714285 714285**~} = {**144,000 / by 63**}, where {**144,000**} = the Baktun!

USING {63} to determine the Egyptian Mars-Jupiter synod:
The Mayan predominant cosmologic number **9,**
times the predominant Egyptian **Ancient Pi 7, -----→ 9 x 7 = 63.**
Khufu base length **756 / by 12 = 63.**
Therefore a major coincident is found:
Egyptian **Kemi** base value **1296 x 63 = 81648 = 100 Mars Jupiter synod.**
Or:
{**0.63**} **x 1296** = {**816 .48**} = **The Egyptian cosmological Mars-Jupiter synod.**

Connecting Egyptian Mars-Jupiter synod 816.48 pyramid planetary cosmologies:

{**816 .48**} **/ by Venus sidereal** {**225**} = {**3 .62880**} ------→ {**362880**}.
Why use the floating decimal to attain {**362880**} = 10 x total Khufu base in inches?
From the very beginnings of this pdf:
{**362880**} = {**9 x 8 x 7 x 6 x 5 x 4 x 3 x 2 x 1**} = 10 x total Khufu base in inches,
{**362880**} **/ by** Mars sidereal {**687 .27 27 27**~} = **Solfeggio 528, then x 10 = 5280 mile.**

{**816 .48**} **/ by** Saturn synod {**378**} = {**2 .16**} **----→** Egyptian number **2160,**
Egyptian number **2160 / by Mars** {**687 .27 27 27**~} **= Ancient Pi** = {**22 / 7**}.

{**81,648**} **/ by 99 = {824 .72 72 72~} = {40} Royal Cubits,**
{**824 .72 72 72~**} = HEIGHT of my previous **Khufu 1296** pyramid.

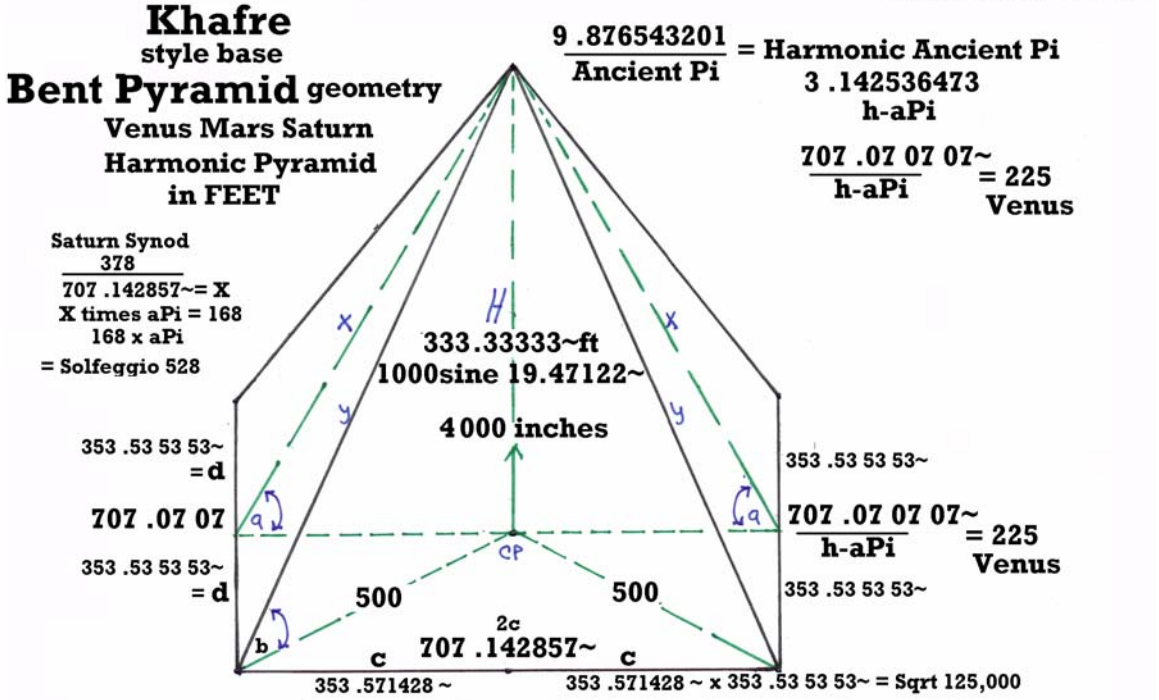
{**816 .48**} **/ by** the **RC/10** or {**20 .618 18 18~ / 10**} = {**396**} Solfeggio value.

A rather rapid fire progression:
Egyptian Mars Jupiter synod {**816 .48**} **/ by** Mars Venus synod {**334 .09 09 09**~} = {**x**}
Then: {**x**} **/ by Ancient Pi = {0 .7776}→ 7776← = {6 x 1296} = 120 aPi x Royal Cubit**
The extrapolation follows **7776** through the floating decimal system:
Mars sidereal {**687 .27 27 27**~} x **360 Ancient Pi = 777600 ←-----→ 7776**
Mayan Long Count 1872000 / by 7776 = {**x**}
Then {**x**} **x 18 = Jupiter sidereal** {**4333 .33333~**} = {**13 x 333 .3333**~}.

It should be noted here that this value {**816.48**} days for the Mars-Jupter synod is directly attached to **Khufu pyramid** dimensions with a base length of **756** feet.
LIKEWISE, the Bent Pyramid geometry displayed here is directly a function of calendar count Venus sidereal {**225**}, and the pyramid used as evidence here is represented with a Khafre style base of dimensions earlier used in the Khafre pyramid.
Now to incorporate the **Egyptian Bent Pyramid upper section** geometry,
and to introduce the **Royal Cubit Foot** = {**1 .718 18 18**~} = **Royal Cubit / by 12 = RC-f.**
The usage of a Khafre base is solely to display the geometry in a similar fashion:

Royal Cubit 20 .618 18 18~ inches / by 12 = 1.718 18 18~ = Royal Cubit Foot = RC-f

H = 333.33333~ ft. = 10 Mars sidereal / 12 Royal Cubit ft → {10 / 12} = {0 .83333~} = 585 Venus synod
Dresden Codex 702



← Venus 225 x Ancient Pi → = 707 .142857~

RC = Royal Cubit 20 .618 18 18 18~

707 .142857 142857~ = Ancient Sqrt 500,000 x 707 .07 07 07 07 07 = 500,000

x Mars 687 .27 27 27~ = 486,000 = 54 x 9000

c times d ={x} = Sqrt 12,500 = x {x} / 2 = 353 .5533906 = 100 x tangent 19 .47122063

H = 4000 inches = 123 .4567901 x {aPi / 2} x RC

c x Mars 687 .27 27 27~ = 243000 1000 Venus Rotational Days !

707 .142857~ ft. = 720 x 243 Venus rotational days / 144 Royal Cubit feet = 5 Venus rotational days / RC-f

707 .07 07 07~ft = 100,000 RC-f / 243 = 250 x Mars 687 .27 27 27~ / 243

Venus Rotational Day = 243 days

H in ft. / 500 = 0.66666

angle b = 33.6900 = arctan 0.66666 sine b x cos b = 360 / 780 360 calendar count 780 Mars synod

angle a = 43 .313deg. arctan Sqrt {8 / 9} average two sides with height

The Mars Jupiter synod **816.48** x base length {**707. 07 07 07**~} = {**5773 .09 09 09**~}← {**5773 .09 09 09**~} = the Khufu pyramid height **x 12 = Khufu height in inches**.
{**63 x 1296**} = **100 Mars Jupiter synod** = **81648**, then **/ by 7 = 11664 ←----note**
{**11664**}**= 7200 x** Ancient Calendar Count Phi {**1.62**}, or {**162**} = {**3 X 6 X 9**}.

The last two pages are the fast track to the Egyptian Khufu pyramid Mars-Jupiter synod.
Prominent in the last two pyramids is the **Venus 243 day, Rotational Day.**
This is the length of time it takes for Venus to actually rotate once like an Earth day.
Mayan Long Count **1872000 / by 243 = 6400 x the Khufu Constant** {**KhC**}.

Khufu Constant = {**195 / 162**}, where {**162**} = 100 ancient calendar count Phi {**1.62**}.
Ancient Calendar Count Phi is a function of the number Mayan number **9.**
Sqrt {**1.62**} **/ by 9 = modern Sqrt 2 / by 10.**
This Phi value is a bridge value between the Mayan and Egyptian number systems, just like the Khufu Constant is, and = {**195 / 162**} = {**1 .203 703 703 703**~}.
3 x 162 = Egyptian number **486 =** {**9 x 54**} = {9 x 10aPi x Royal Cubit foot.}
Mayan Long Count Venus synod {**585**} **/ by Khufu Constant =** {**486**}!

Venus synod {**585**} **x 200 Calendar Count Phi** {**1 .62**} = {**189540**} ←---note.
{**189540**} **/ by** Royal Cubit value {**20 .618 18 18**~} = **Ancient Pi x** {**2925**} **!**
where in these Mayan Long Count numbers:
{**2925**} **= 13 x** {**225**} **Venus sidereal = 5 x** {**585**} **Venus synod.**
And:
{**2925**} = 10 Venus Rotational Days {**2430**} **x** the **Khufu Constant.**

Venus synod {**585**} **x 200 Calendar Count Phi units of** {**1 .62**} = {**189540**} ←---note.
{**189540**} **/ by 780** Mars synod **=** {**243**} Venus Rotational Day.

Mayan Long Count **1872000 / by** {**189540**} = {**9 .876543209**~}

10 Venus Rotational days = {**2430**},
then: {**2430**} **/** by **Khufu Constant** = {**x**},
then: {**x**} **x 13** = {**26240**} = ancient calendar count {**162**} squared.

Mars Jupiter synod {**816.48**} **/ by** Venus {**243**} ={**3 .36**} ←----→ {**336**},
and from earlier:
{**336**} x {**aPi / 2**} = Solfeggio **528,**
{**336**} **= The Masonic Arch 16 pyramids x the 16 pointed star.**
Or if you are fussy about the floating decimal system:
{**3 .36**} x {**500 Ancient Pi**} = the **5280** mile value.

Mayan Long Count {**1872000**} **/ by** Egyptian Mars Jupiter synod {**816.48**} = {x}
Then:
{**x**} x **378** Saturn synod = {**8666666.666666**~} = **200** Jupiter sidereal {**4333 .33333**~}.

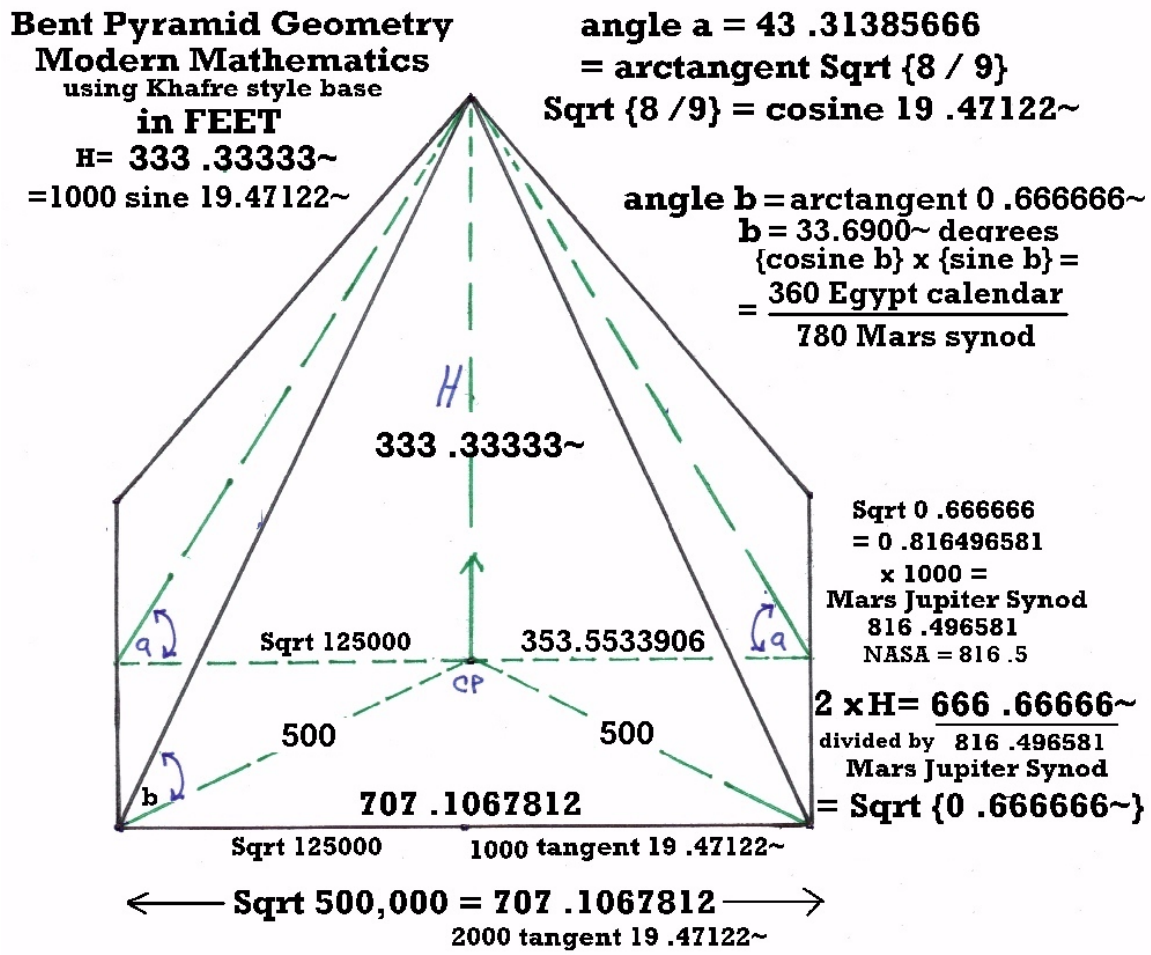
Royal Cubit {**20 .618 18 18** ~} **/ by** calendar count Phi {**1 .62**} = **10 x** {**1 .27 27 27**~}.
Royal Cubit {**20 .618 18 18**~ } x {**KhC**} = {**x**},
Then:
Mars {**687 .27 27 27**~} **/ by** {**x**} = {y} = {**360 / by 13**}.

I tried to somewhat crash course the reader into the Universal Harmonic coding
of planetary timelines in both Egyptian and Mayan cosmological systems
on the just prior page here.
Using unique constants as well, I highlighted the Egyptian Mars Jupiter synod,
and the Venus 243 day, Rotational Day.
Mayan Long Count {**1872000**} **/ by** {**KhC**} = {**x**} = {**720 x 2160**}
Where: {**2160**} = Mars {**687 .27 27 27**~} **x Ancient Pi.**

1000 Mars-Jupiter synods = **816480** = 2268 cycles of **360** day calendar count.
816480 / by Mercury sidereal {**88**} = 450 Royal Cubit units.
816480 / by Saturn synod {**378**} **= 2160 =** Mars {**687 .27 27 27**~} **x Ancient Pi.**

The Bent Pyramid upper section in ---→ modern geometry ←---:
has a Mars Jupiter synod of **1000 x Sqrt** {**0 .6666666**~} = {**816 .496581**~}
This pyramid follows the Khafre base design as well but uses the modern applications.

The Side Corner angle b = arctangent {**333.3333~ / by 500**} = arctan {**0.66666**~},
Arctangent {**0.66666**~} = {**33 .6900675**} degrees. {abbreviated below},
Sine of {33.69~} x Cosine of {33.69~} = **Earth calendar 360 / by Mars synod 780 !!!**



Height {**333 .33333**~} = **10** Egyptian Mars sidereal {**6872 .72 72 72**} **/ by** Royal Cubit.

Khafre Pyramid with Pascal Triangle Progression Venus sidereal

After what appears to be laborious exercises in expressing the Khafre pyramid
with base lengths that conform to **Ancient Pi** x the Venus sidereal {**225**},
it needs to be noted that this system is predicated upon the original Khufu pyramid base
of **756** feet in which numerically the value **756** aligns with **225** as the Venus sidereal,
and the **360** day Earth calendar count:
{**756**} / by Venus {**225**} = {**3.36**} -----→ {**336**}, then x **5 Ancient Pi** = {**5280**} mile.
And {**336**} = Masonic **16** pointed star x **21** arch pyramids.
10 x {**360**} = {**3600**} = **16** x {**225**} Venus.
10 x {**756**} = {**7560**} = **21** x {**360**}.

Thus the Khafre pyramid designed with **Venus 225 x Ancient Pi** as a base length
is fundamentally locked to Khufu pyramid dynamics in the base length number {**756**},
which was then found to be ideal in a rectangular form **using Ancient Pi and h-aPi**,
which supplied the beautiful Corner Angle tangent as a fraction the Egyptians could have
readily used: {**66 / 70**}, and this same fraction therefore then is the same fraction used in
the Bent Pyramid as the arctangent to calculate the Side Face slopes.
Arctan {**66 / 70**} = 43.31531568 degrees.

However as we have seen earlier, both Petrie's and Lehner's numbers for the Khafre base
which are approximately **706.2** feet as a standard value seen in most publications,
are shorter by approximately a foot per side which is significant, even though Edward's
base length was **707 feet 9 inches**, almost 18 inches longer than Petrie and Lehner.

So in one of the earlier diagrams I created a square base pyramid exclusive to **706.2** feet
with the resultant applications of **Ancient Pi x NASA Venus** sidereal {**224.7**},
with the Royal Cubit as seen in that particular diagram.
Note here now,
Petrie's base length average for the Khafre Pyramid: {**706.241666**~} feet.←----note.

The Pascal Triangle Numeric Progression for Venus sidereal:

The slope of the Khufu pyramid is determined by the slope equation:
4 / Ancient Pi = {**14 / by 11**} = {**1 .27 27 27 27**~} = Sqrt. Ancient Egyptian Phi.
Note now how the Khufu slope tangent {14 /11} is utilized.
Pascal triangle numbers:
Pascal triangle number {**364**} / by {**1 .27 27 27**~} = Pascal number {**286**},
Then:
Pascal {**286**} / by {**1 .27 27 27**~} = Venus {**224 .714285 714285 714285**~}.

Thus a beautiful Khafre base length is found:
Venus {**224 .7142857 7142857**~} **x Ancient Pi =** {**706 .24 48979**~} foot base length.
Flinders Petrie "mean" or an average base length = {**706 .24 16666**~} foot base length.
This is a difference of exactly {**0 .0387756**} inches.
I would call that rather incredible in convergence of exactitude.

This is where it gets dramatically intense with the new Khafre base length.

{**706 .2448979**~}feet x **12** = {**8474 .938776**~} inches,
and:
{**8474 .938776**~} inches = {**273**} x **Ancient Pi** x **Ancient Pi** x **Ancient Pi**.

So, obviously the number {**273**} had better have a significant operational function.

Pascal number {**364**} / by {**273**} = {**1.333333**~} = Khafre pyramid slope tangent.

{**273**} / by {**364**} = {**0.75**} = **MLC** Venus synod {**585**} / by Mars synod {**780**}.

{**273**} / by Pascal {**286**} = {**0.954 54 54**~},
and:
{**0.954 54 54**~} x **360** = one half Mars {**687 .27 27 27**~} = {**343 .63 63 63**~}.

Pascal number {**286**} / by {**273**} = {**x**}, then {**x**} x {**360**} = **120 Ancient Pi**.

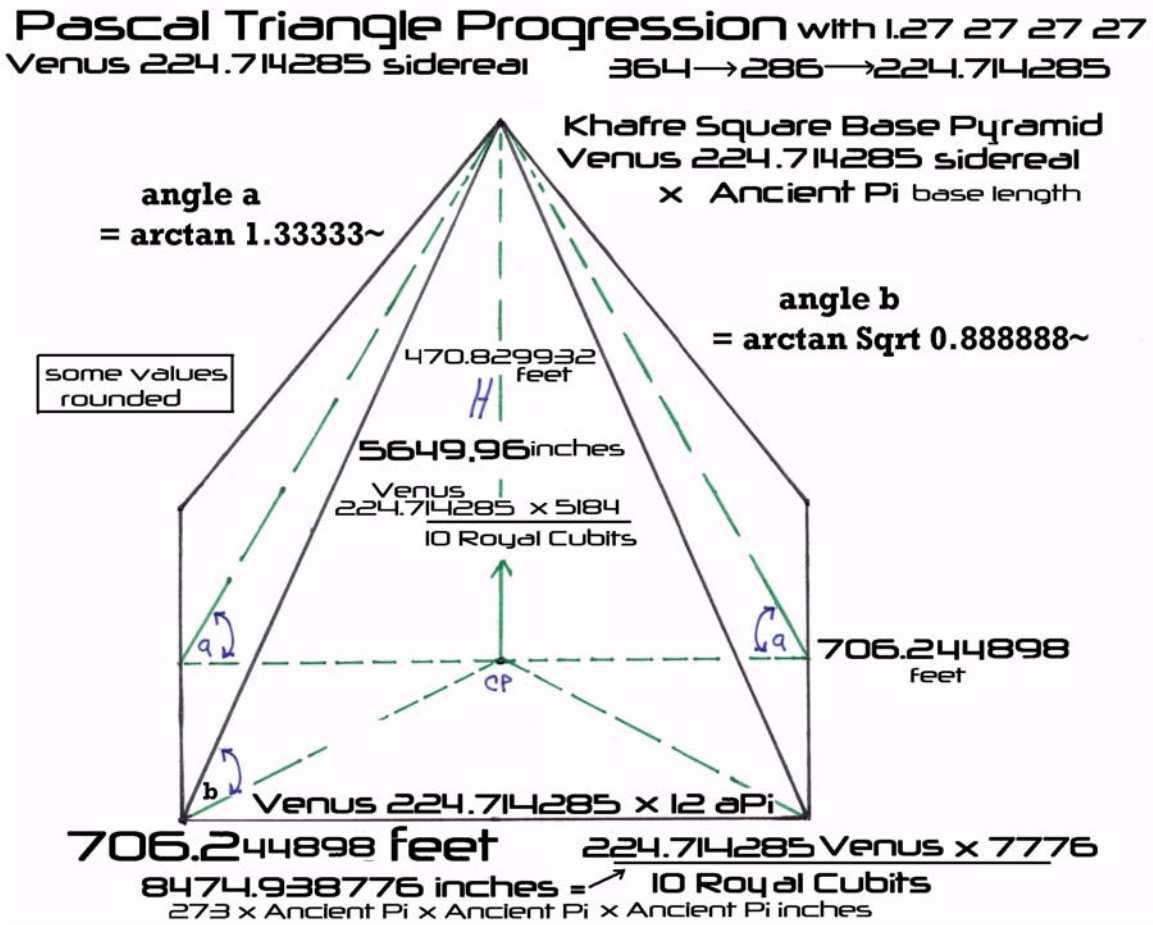
{**273**} / by Tzolkin {**260**} = {**1.05**} = Saturn {**378**} / by {**360**} calendar count.

{**273**} / by Mayan Glyph {**819**} = {**0.333333**~} = sin of tetrahedral {19.47122063~}.
or 3 x 273 = 819.

The number **273** creates a basic bridge between Egyptian and Mayan math
with the fraction {**39 / by 54**} or it's inverse,
{where 3**9 x *20* = 780** synod, and **54 x *14*** = {**756**} foot Khufu base}.
Note: the above multiplicative values {***20 x 14***}= {**280**} cubits for Khufu pyramid height.
Thus:
{**273**} x {**54 / 39**} = Saturn synod {**378**}, or:
{**39 / 54**} x Khufu base {**756**} = {**546**}, and {**546 / by 700**} ={**0.78**}--→ **780** Mars synod.

This Khafre Pyramid height formula then would be:
The base length **Venus** {**224 .714285 714285**~} **x Ancient Pi =** {**706 .24 48979**~},
then divided by two,
then **times** the slope tangent {**1.333333**~} = {**470.8299318**~}feet,
almost spot on for both Petrie and Lehner numbers for the height.
This means that this pyramid can follow the **EXACT formula for the Royal Cubit**
applied to base length and height as was displayed in the Khafre diagram with the
NASA sidereal **224.7** x Ancient Pi for the base length!
New Khafre base length {**8474.938776**~} inches =
Venus {**224. 714285 714285**~} x {**7776**} / by **10 Royal Cubits**,
where {**7776**} = **6** x Kemi base value {**1296**}, and {777600 = 2160 x 360}.

HEIGHT = {**470.8299319**~}ft. x 12 = {**5649 .959184**~} inches =
Venus {**224.714285 714285**~} x {**5184**} / by **10 Royal Cubits,**
where {**5184**} = {**72**} squared = **4** x kemi base value {**1296**}. And {51840 = 144 x 360}.



Pascal Progression: **Khufu pyramid slope tangent** {**14 / 11**} = {**1 .27 27 27~**}

364 -----→ 286 ------→ Venus 224 .7142857 7142857~ sidereal

Pascal 364 / by 1.27 27 27~ = Pascal 286, then / by 1.27 27 27~ equals:
Venus 224 .714285 714285 day sidereal for the pyramid base and height.

Therefore the beauty of this pyramid as well, is that to achieve the fraction {**66 / 70**} **as the corner angle tangent,**
so that an angle can be exacted by the usage of a simple but applicable fraction, one needs to only adjust the adjacent sides to the bottom base length shown by taking the Venus sidereal as such, from:
Venus 224 .714285 714285 x 12 Ancient Pi = 8474.938776 inches
to:
Venus 224 .714285 714285 x 12 Harmonic Ancient Pi = 8474.074 074 in.
Thus a perfect rectangular pyramid is accountable using aPi and h-aPi.

Mayan and Egyptian cosmologies in action with Mayan Glyph 819

Mayan Long Count **1872000 / by 819** = {**2285 .714285 714285**~} = {**16000 / 7**}.
{**2285 .714285 714285**~} x Saturn synod **378** = Egyptian number {**864,000**}←--!
And:
{**864,000**} / by Mars sidereal {**687 .27 27 2727**~} = {**1257 .142857 142857~**} ←---Note.
And:
{**1257 .142857 142857~~**} = {**8800 / 7**} = 100 Mercury 88 day sidereal.
{**1257 .142857 142857~**} = 400 Ancient Pi = {**25920 / by Royal Cubit**},
Take that value {**8800 / 7**} = {**1257 .142857 142857~**}
back into the **MLC**:
MLC **1872000 / by** {**1257 .142857 142857~**} = {**1489 . 09 09 09 09**~} ←--note.
{**1489 . 09 09 09 09**~}←-------→ the exact Khufu height numerals {**481 .09 09 09**~}.
So what?
This is the beauty of the Egyptian Ancient Pi system numerologic cosmologies.
This is what their numbers do in harmonic code, they will change positions or add zeros.
One will often see Egyptian number progressions as such:
3456 ---→ 3465 ---→ 3564 ---→ 3645, where {**356 .4**} is Edwards Menkaure base.
Another example:
2160 = Mars {**687 .27 27 27**~} x **Ancient Pi,**
2610 = ten x the total "nets" in a hypercube,
2016 x **4** = **6048** = {**16 x 378** Saturn synod},
Then using **60480** = {**88 Mercury x Mars 687 .27 27 27**~},
Note that **648 = 10 Ancient Pi x Royal Cubit.**

Returning to the prior equation:
Take that value {**88000 / 7**} = {**1257 .142857 142857~**}back into the Mayan Long Count:
MLC **1872000 / by** {**1257 .142857 142857~**} =
{**1489 . 09 09 09 09**~}←----------→ the exact **Khufu height** numerals {**481 .09 09 09**~},
then:
{**481 .09 09 09**~} **/ by** {**1489 . 09 09 09 09**~} = {**63 / by 195**} ←---important note!
Because **Ancient Pi / 2 =** {**99 / 63**},
And Mayan glyph **819 / 13 = 63,**
The ratio {**63 / 195**} becomes an important constant like the Khufu Constant {**195 / 162**}.
The number {195} is the ancient Mayan and Egyptian count systems
numerologic equivalent to the tetrahedral {19 .47122063} angle in floating decimal.
{**195**} --→ {**19 .5**} --→ {**1 .95**}:
Mayan Dresden Codex **702** = **360** x {**1 .95**} or {**36 x 19.5**}
Mars synod = {**40 x 19.5**} = {**780**}, and the Venus synod = {**30 x 19 .5**} = {**585**},
Therefore:
Mayan Long Count x {**63 / 195**} = {**604800**} ←--note from earlier just above!
And {**604800**}= 10 x Egyptian {**88 Mercury x Mars 687 .27 27 27**~}!,

{**63 / 195**} x {**585**} Venus synod = {**189**} = Saturn synod {**378 / 2**},
{**63 / 195**} x {**780**} Mars synod = Pascal number{**252**} = {**0 .666666**~} x {**378**} Saturn,
{**63 / 195**} x {4333 .33333~} Jupiter = {**1400**} = **1100** Ancient Sqrt Phi = **4400 / by aPi.**