

The Remarkable Triple of Numbers (Pi, 4, 10)

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Abstract: this paper presents a collection of numerical facts relating the triple of numbers (Pi, 4, 10) to our human reality, the system of Sun-Earth-Moon, with an accuracy of 99.2% and higher.

While this collection of 99+% accurate numerical facts does not provide any definitive conclusions, and may be purely coincidental, persons interested in the philosophy of life may make their own conclusions... Suggested perception angle for precision: engineering of complex mechanical systems.

- The difference between the circumference of a circle with diameter 1 and the perimeter of a square with side 1, or circle's discrete orthogonal outline= $4-\pi$
- Area of a square/area of a circle inscribed in it= $4/\pi$
- $(4*\pi-4)/\pi=4-4/\pi\approx 2.73$
- $(4-\pi)/\pi=4/\pi-1\approx 0.2732$
- Average duration of pregnancy ≈ 273 days (average of 38- and 40-week conventions)
- Moon period ≈ 27.32 days
- Sun's rotational period ≈ 27.3 days (at 30 degrees latitude)
- Freezing point of water ≈ 273.2 degrees K
- Boiling point of water ≈ 100 degrees C ($\approx 273.2+10*10$ K)
- Point of water's density anomaly ≈ 4 degrees C ($\approx 273.2+4$ K)
- Earth diameter $\approx 4/\pi*10^4\approx 12732$ km, or $\approx (4-\pi)/(\pi*\pi-\pi)*10^5\approx 12758$ km
- Sun mass/Earth mass $\approx (\pi*\pi+4)/(4*\pi*\pi+\pi-1)*10^6\approx 333244$
- Moon mass $\approx (4*\pi-4)*(4-\pi)*10^{22}\approx 7.35*10^{22}$ kg
- Inverse of fine-structure constant $\approx 4*\pi*\pi*\pi+\pi*\pi+\pi\approx 137.036$, or $4*4*(4*\pi-4)\approx 137.06$
- Cosmic microwave background temperature $\approx 4-4/\pi\approx 2.727$ K
- Period of prvhash-1 (with PH_HASH_COUNT= $4*4$)= 273 bits
- $\pi/(4-\pi)\approx 1/0.2732\approx 3.66$
- Normal human body temperature at armpit ≈ 36.6 degrees C ($\approx 273.2+36.6$ K)
- Earth diameter/Moon diameter ≈ 3.66 , same with circumference
- Sidereal days in a year ≈ 366 days
- Ratio of a solar to sidereal day $\approx 1+0.002732$
- 366 revolutions of the Moon around the Earth $\approx 10^4$ days
- Sun diameter/Moon diameter ≈ 400 , same with circumference
- Circumference of the Moon/Moon period ≈ 400 km/day
- Circumference of the Earth $\approx 4*10^4$ km
- Sun-Earth distance/Earth-Moon average distance ≈ 400 (highly-variable due to elliptical orbit)
- Harmonic numbers of 27.32: 54.64, 81.96, 109.28, 136.6
- Earth mass/Moon mass $\approx 81.96(=81.343)$
- Sun diameter/Earth diameter ≈ 109.28 , same with circumference
- Circumference of the Moon ≈ 10928 km
- Earth radius/Earth's barycenter distance ≈ 1.366
- Earth's axial precession period $\approx (\pi+4)/(\pi*\pi*\pi-4/\pi)/(\pi-1)*10^7$ days ≈ 25535 years (average of NASA, Tycho, and Copernican models)
- $1=\pi/\pi=4/4=10/10$
- $(4*\pi-4)/(4-\pi)\approx 10.0$
- $\pi*\pi+4/(\pi*\pi)-4\approx 2.00*\pi$
- $(4*\pi*\pi+\pi-1)/(\pi*\pi+4)\approx 3.00$
- Supergolden ratio $\approx (4*\pi)/(4*\pi-4)\approx 1.4669$
- (K is a thermodynamic temperature defined by physical laws)
- (4 and 1/4 are precise binary operations - "shift-left" and "shift-right" by 2 binary digits)
- (dithered rounding is a rounding after randomly adding or subtracting half the significant digit)