

Numerolandia



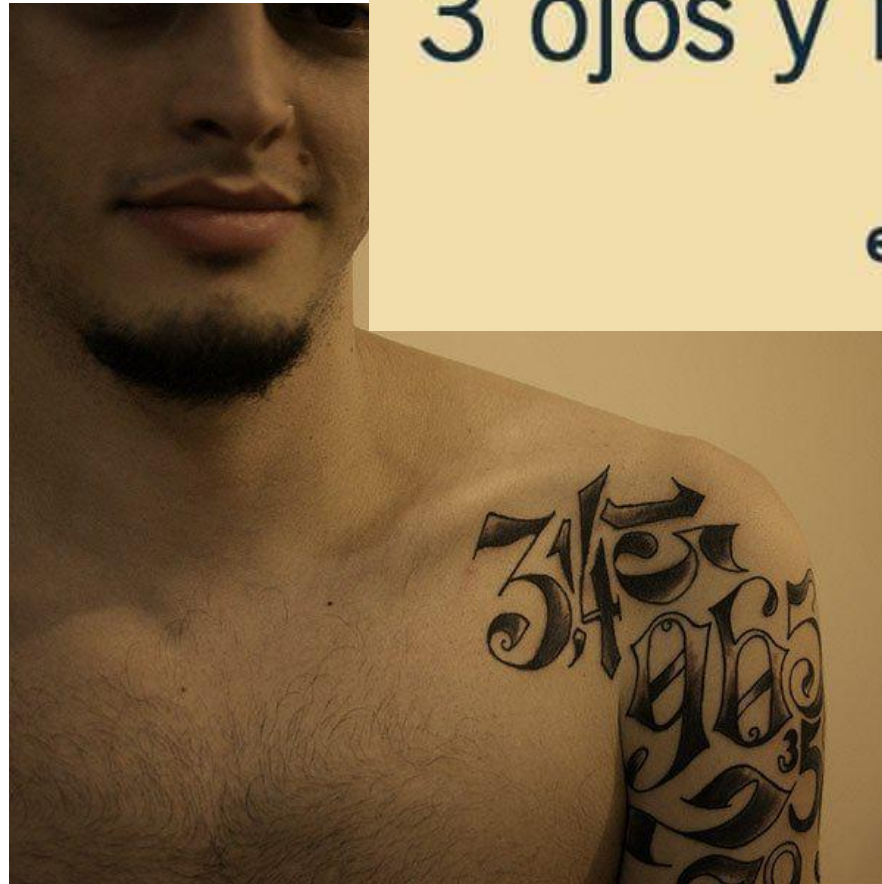
Contenido

- Introducción a los números
- Desarrollo de la plática
- Aplausos
- Galletas y café

PITAGÓRICA

AXIOMÁTICA

INTUITIVA



¿Cuál es el animal
que tiene mas de
3 ojos y menos de 4?

el piojo

Handwritten text in Arabic script, likely a mathematical derivation or commentary. It includes several lines of text and a small diagram of a triangle with a vertical line segment drawn from the top vertex to the base.

Handwritten text in Arabic script, continuing the mathematical discussion. It features a diagram of a triangle with a vertical line segment from the top vertex to the base, and another vertical line segment extending downwards from the base.

Handwritten text in Arabic script, further detailing the mathematical work. It includes a diagram of a triangle with a vertical line segment from the top vertex to the base.

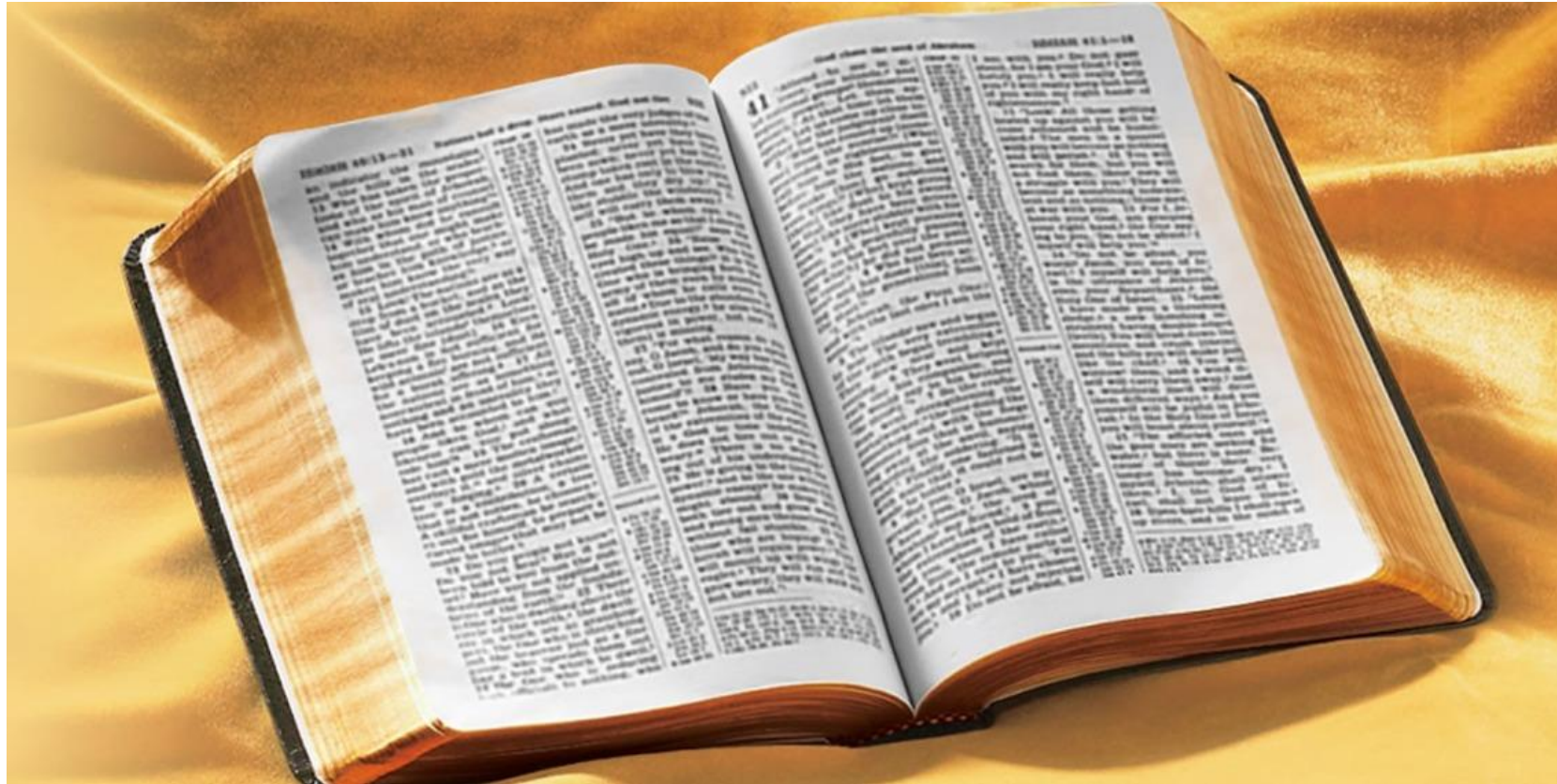
Handwritten text in Arabic script, showing a diagram of a triangle with a vertical line segment from the top vertex to the base, and some associated calculations or notes.

Handwritten text in Arabic script, concluding the section with a diagram of a triangle and a vertical line segment from the top vertex to the base.

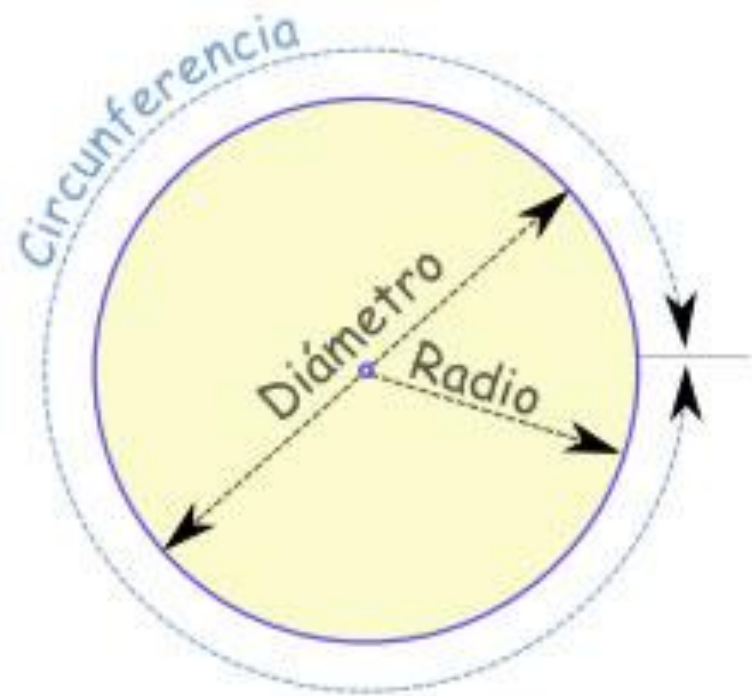
$$S = \pi r^2 \simeq \left(\frac{8}{9} \cdot d \right)^2 = \frac{64}{81} d^2 = \frac{64}{81} (4r^2)$$

$$\pi \simeq \frac{256}{81} = 3.16049 \dots$$

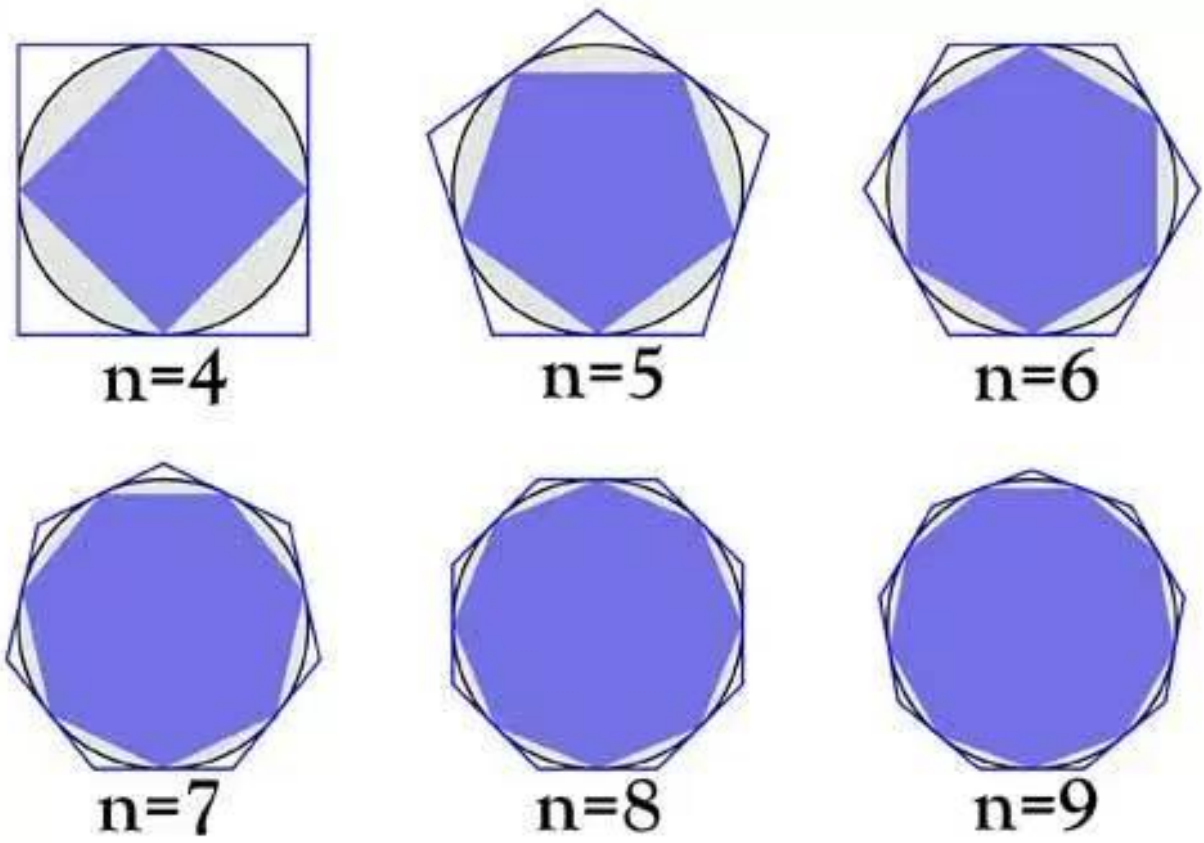
$$\pi \approx 3 + \frac{1}{8} = 3.125$$



Hizo el mar de metal fundido, de diez codos de borde a borde. Era enteramente redondo y ... treinta codos medía su contorno.
2ª Crónicas.



$$\frac{\text{Circunferencia}}{\text{Diámetro}} = \pi = 3.14159\dots$$

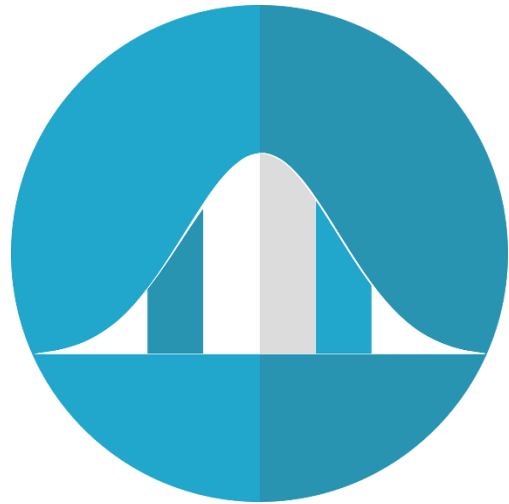
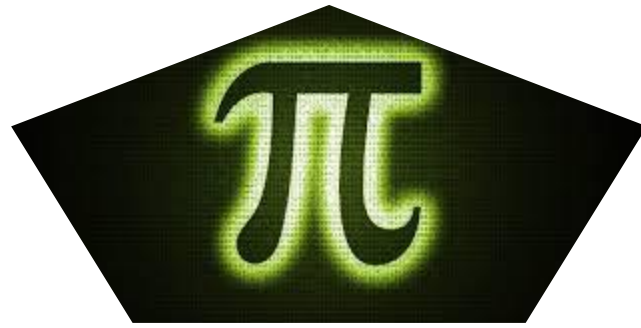


Año	Matemático o documento	Cultura	Aproximación	Error (en partes por millón)
~1900 a. C.	Papiro de Ahmes	Egipcia	$2^8/3^4 \sim 3.1605$	6016 ppm
~1600 a. C.	Tablilla de Susa	Babilónica	$25/8 = 3.125$	5282 ppm
~600 a. C.	La Biblia (Reyes I, 7:23)	Judía	3	45 070 ppm
~500 a. C.	Bandhayana	India	3.09	16 422 ppm
~250 a. C.	Arquímedes de Siracusa	Griega	entre $3 \frac{10}{71}$ y $3 \frac{1}{7}$ empleó $211875/67441 \sim 3.14163$	<402 ppm 13.45 ppm
~150	Claudio Ptolomeo	Greco-egipcia	$377/120 = 3.141666\dots$	23.56 ppm
263	Liu Hui	China	3.14159	0.84 ppm
263	Wang Fan	China	$157/50 = 3.14$	507 ppm
~300	Chang Hong	China	$10^{1/2} \sim 3.1623$	6584 ppm
~500	Zu Chongzhi	China	entre 3.1415926 y 3.1415929 empleó $355/113 \sim 3.1415929$	<0.078 ppm 0.085 ppm
~500	Aryabhata	India	3.1416	2.34 ppm
~600	Brahmagupta	India	$10^{1/2} \sim 3.1623$	6584 ppm
~800	Al-Juarismi	Persa	3.1416	2.34 ppm
1220	Fibonacci	Italiana	3.141818	72.73 ppm
1400	Madhava	India	3.14159265359	0.085 ppm
1424	Al-Kashi	Persa	$2\pi = 6.2831853071795865$	0.1 ppm



2002	Kanada y otros ²¹ [3]	Hitachi SR8000/MP	1 241 100 000 000
2004		Hitachi	1 351 100 000 000
2009	Daisuke Takahashi ²²	T2K Tsukuba System	2 576 980 370 000
2009	Fabrice Bellard ²³	Core i7 CPU, 2.93 GHz; RAM: 6GiB	2 699 999 990 000
2010	Shigeru Kondo	2 x Intel Xeon X5680, 3.33 GHz	5 000 000 000 000
2011	Shigeru Kondo		10 000 000 000 000

$$\pi = 4 \sum_{i=0}^{\infty} \frac{(-1)^i}{2i+1}$$



$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}$$

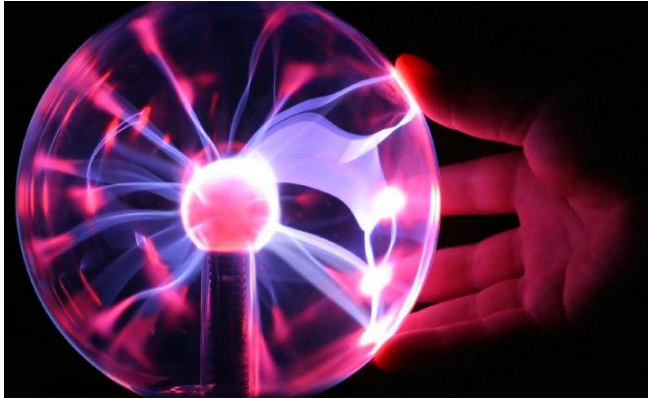
$$n! \underset{+\infty}{\sim} \left(\frac{n}{e}\right)^n \sqrt{2\pi n}$$



$$R_{\mu\nu} - \frac{1}{2}g_{\mu\nu}R - \Lambda g_{\mu\nu} = \frac{8\pi G T_{\mu\nu}}{c^4}$$



$$\Delta E \cdot \Delta t \geq \frac{\hbar}{2\pi}$$

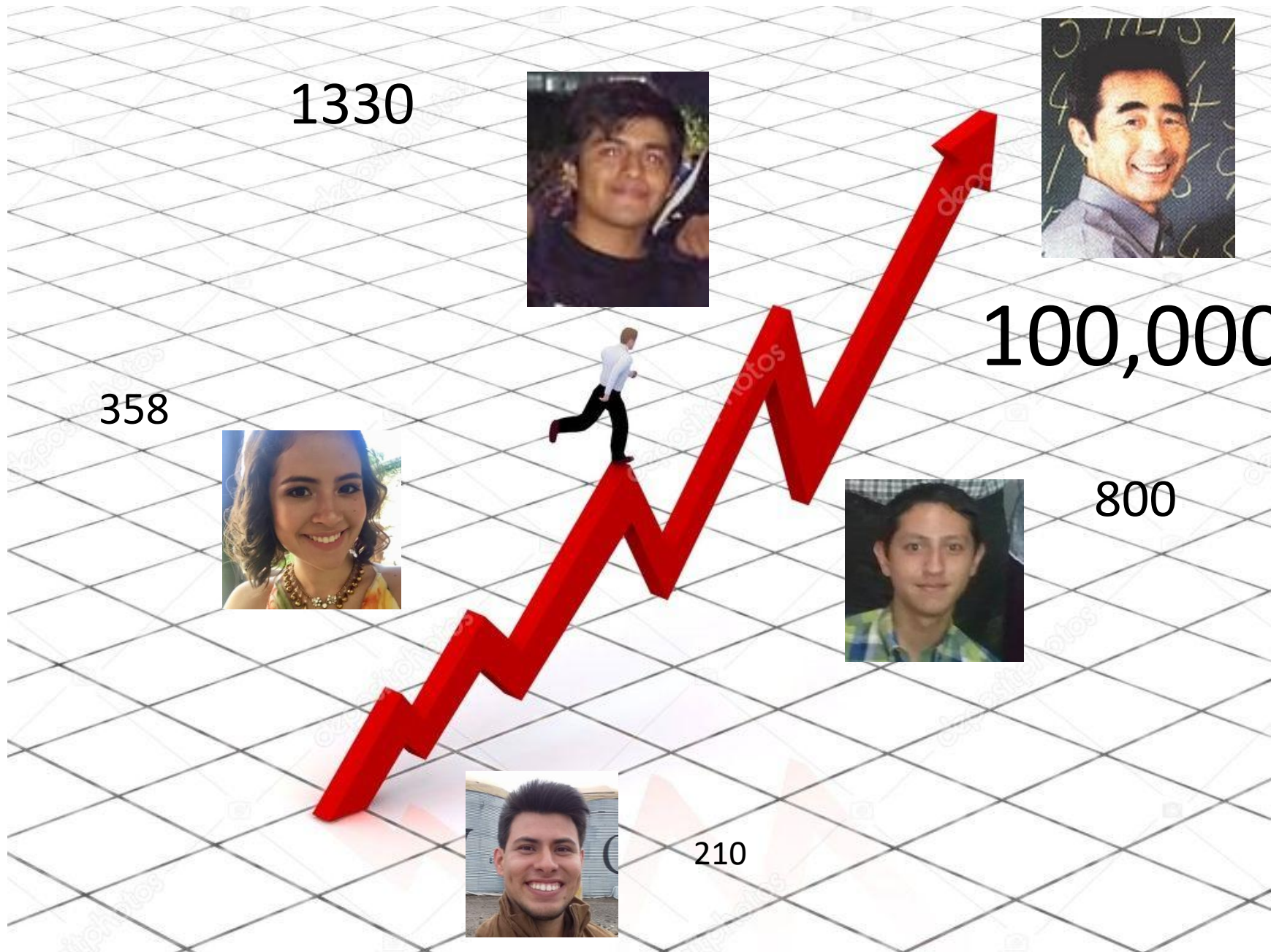


$$\vec{F} = \frac{1}{4\pi\epsilon} \frac{q_1 \cdot q_2}{d^2} \vec{u}_d$$



$$\frac{a^3}{P^2} = \frac{G}{4\pi^2} (m_1 + m_2)$$

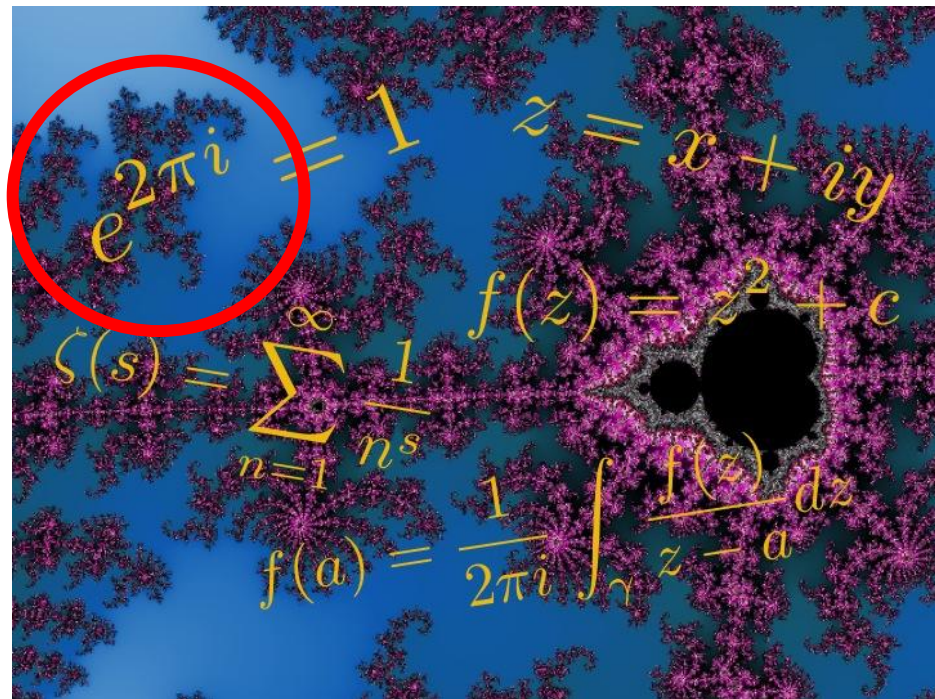
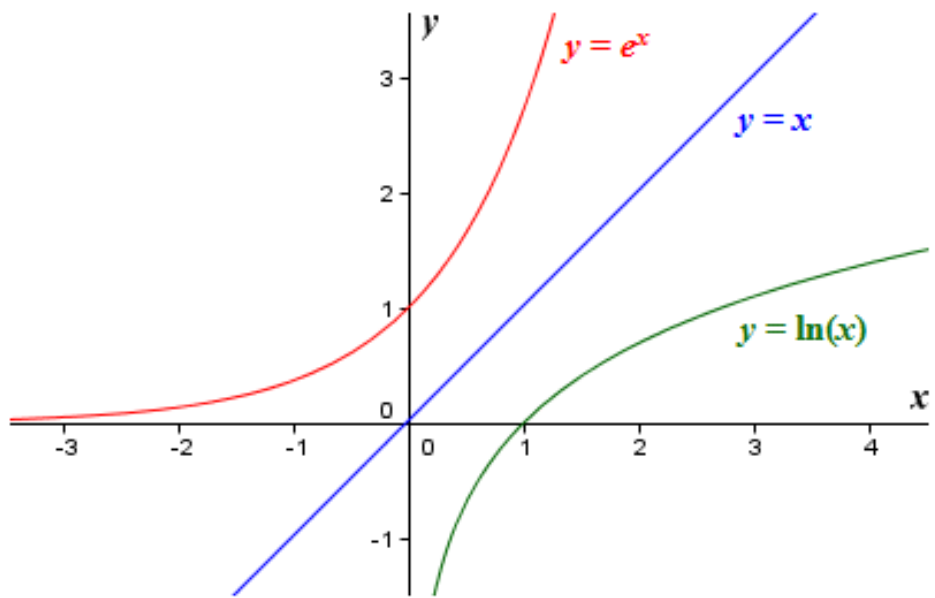




*Fotografias
tomadas del face
sin permiso de los
autores







$$e^x = \sum_{k=0}^n \frac{f^{(k)}(0)}{k!} x^k + R_k(x) = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots + \frac{x^n}{n!} + O(x^{n+1})$$

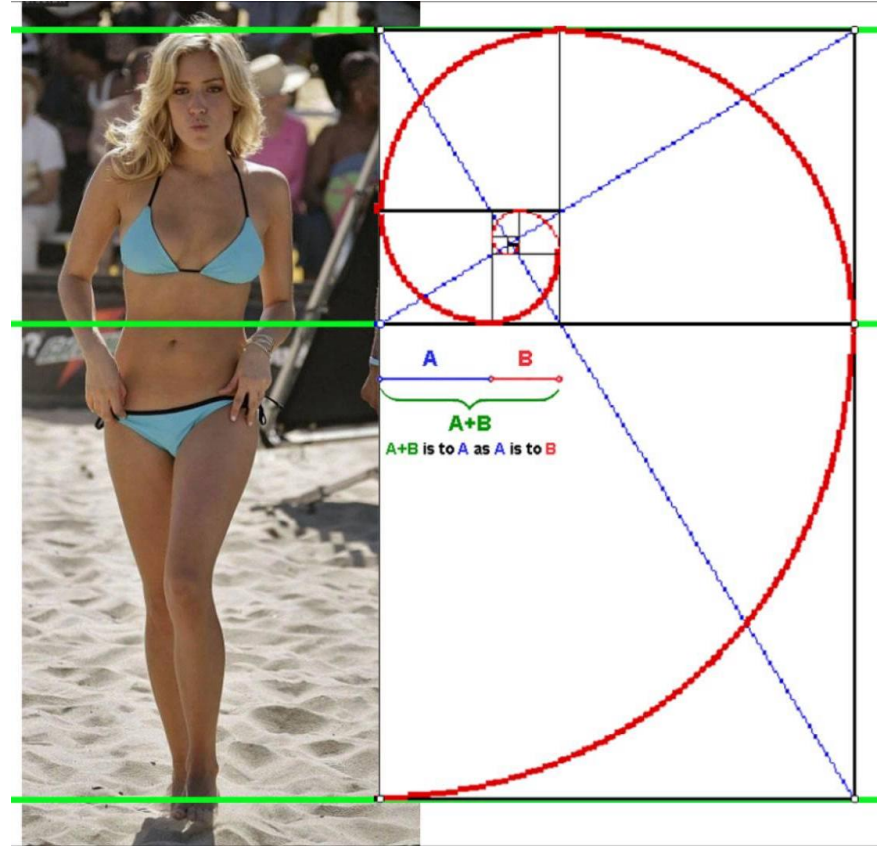
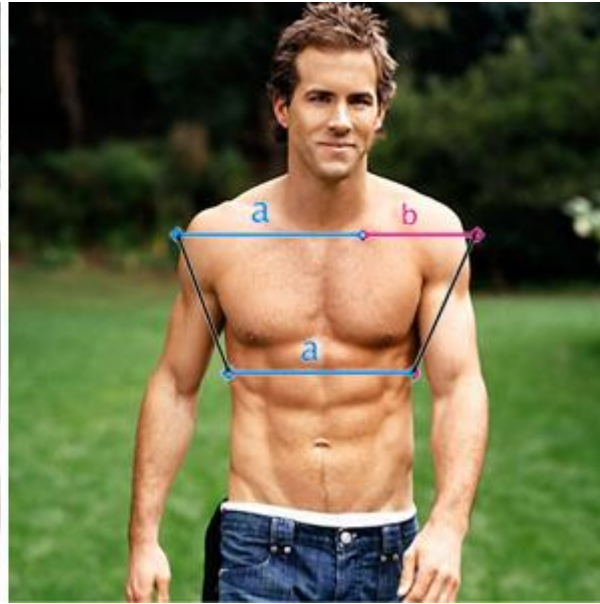
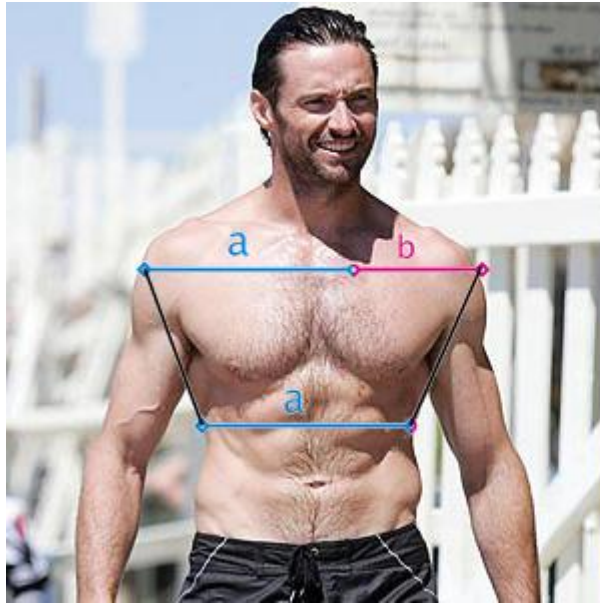




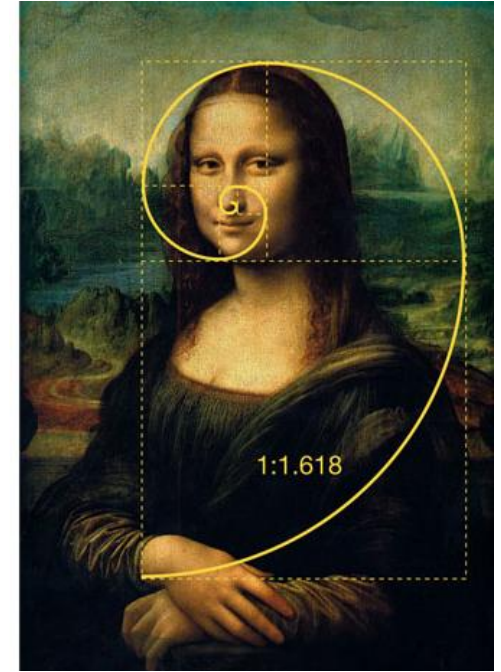
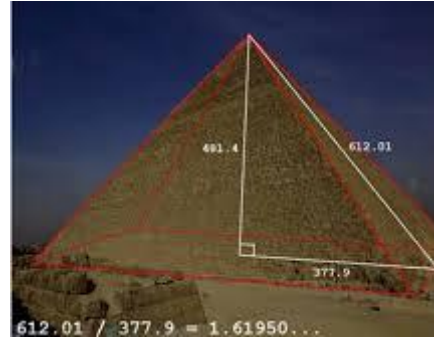
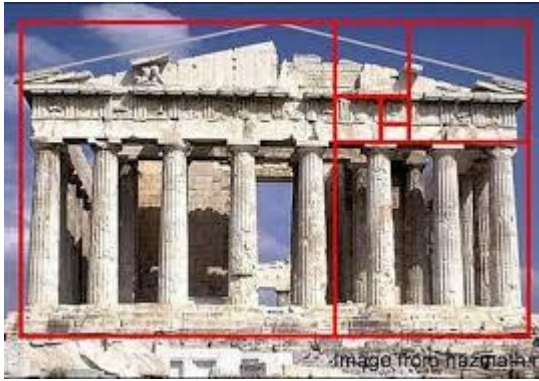
El
trabajo
y
esfuerzo
de
recordar
E
revuelve
mi
estómago,
pero
podré
acordarme

METAFONT and T_EX/L_AT_EX









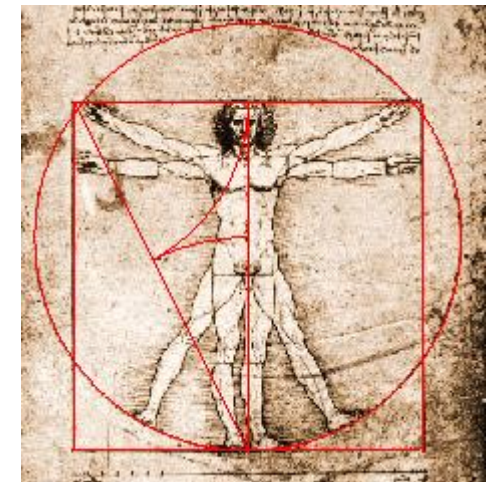
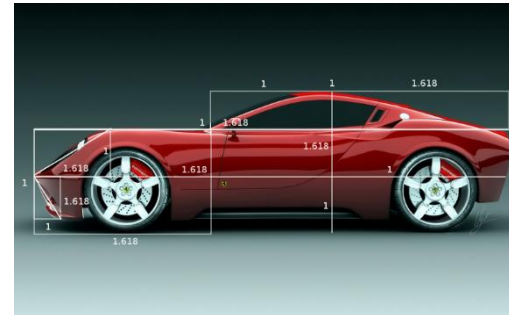
A

B



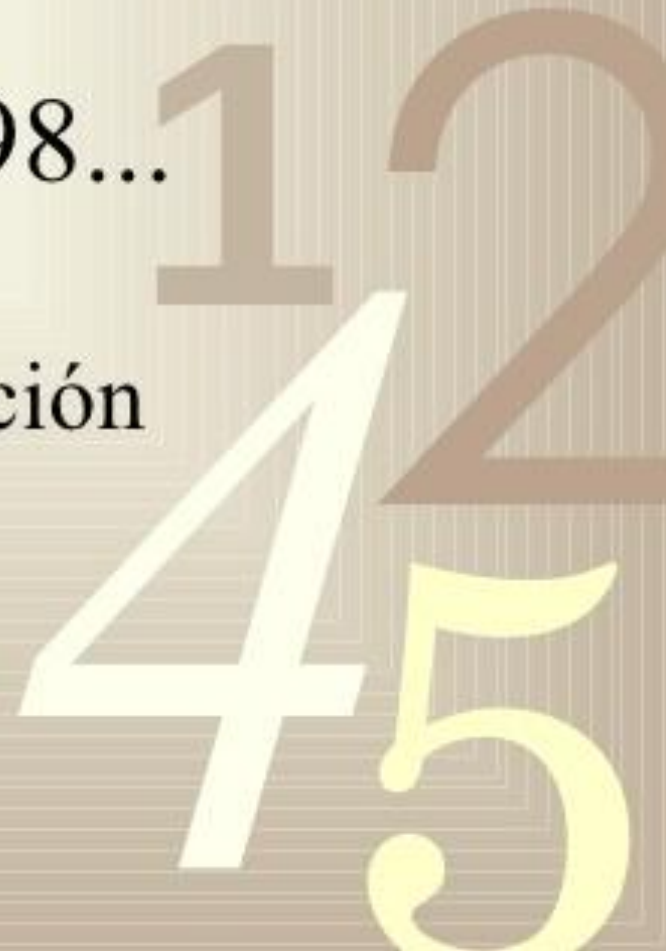
A + B

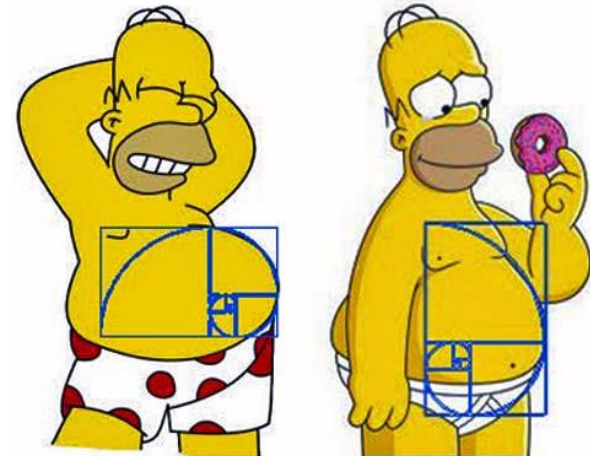
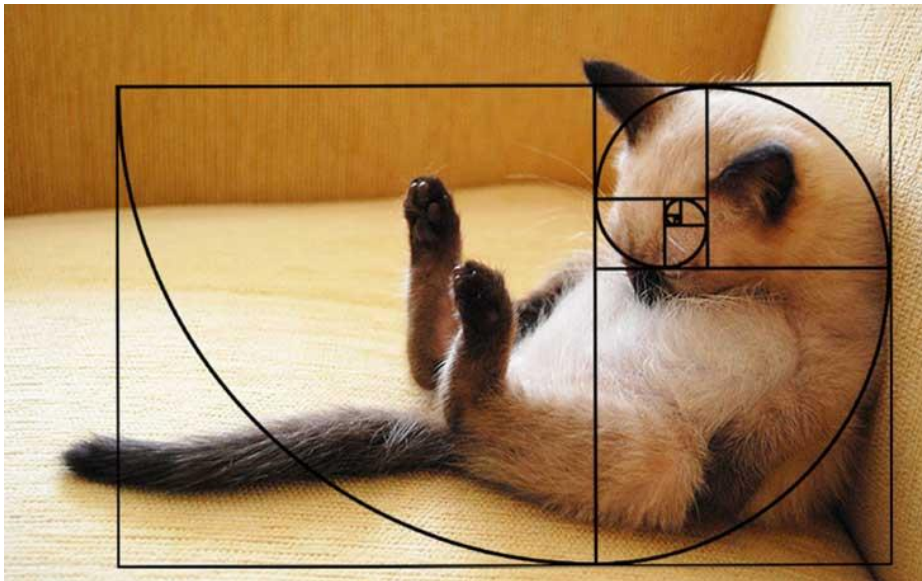
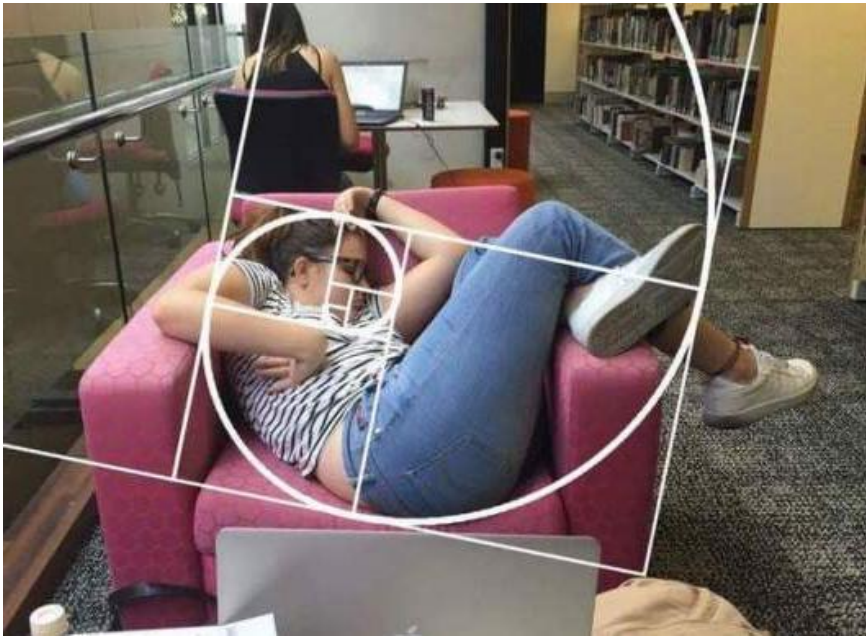
$$\frac{A + B}{A} = \frac{A}{B} = \varphi$$



$$\Phi = \frac{1 + \sqrt{5}}{2} = 1,610339887498\dots$$

Es una de las soluciones de la ecuación
de segundo grado: $x^2 - x - 1 = 0$



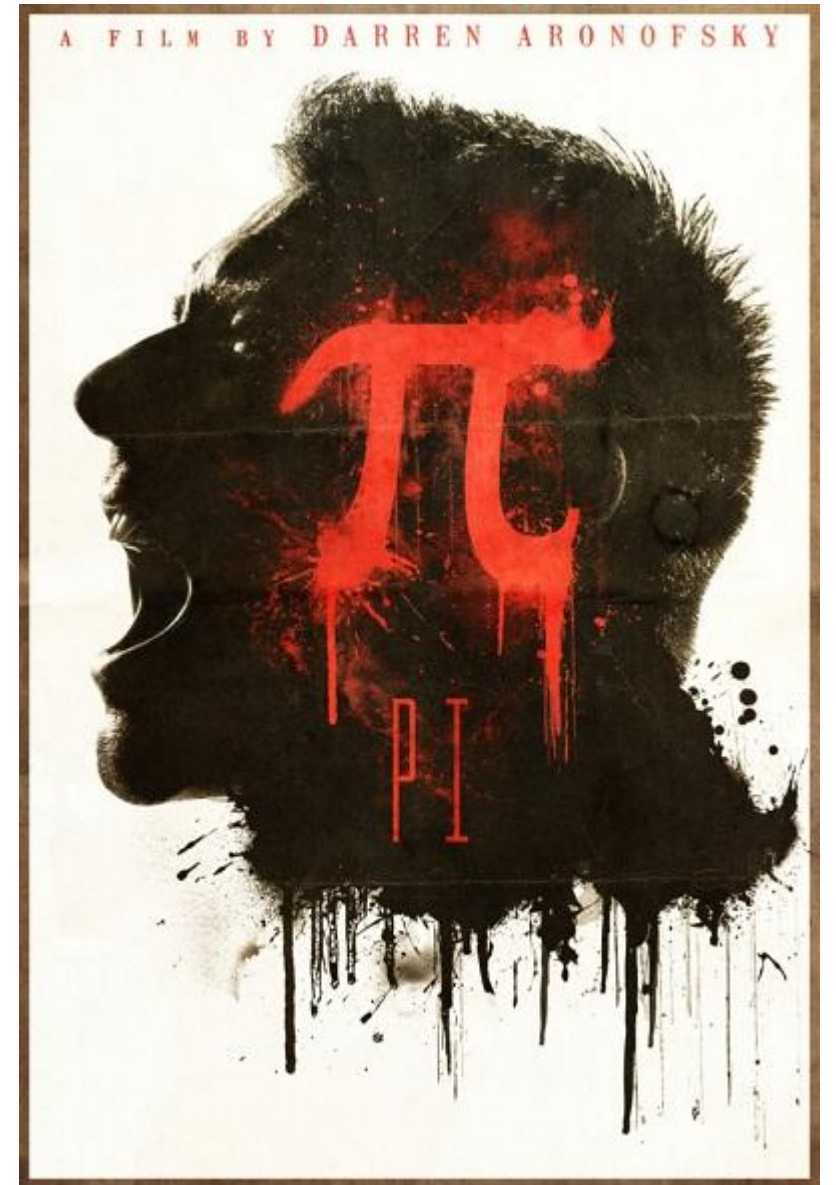


$$F_n = \frac{1}{\sqrt{5}} \left[\left(\frac{1 + \sqrt{5}}{2} \right)^n - \left(\frac{1 - \sqrt{5}}{2} \right)^n \right] = \frac{1}{\sqrt{5}} [\varphi^n - (1 - \varphi)^n]$$



$$\varphi = 1 + \frac{1}{\varphi} \quad \rightarrow \quad \varphi = 1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \dots}}}}$$

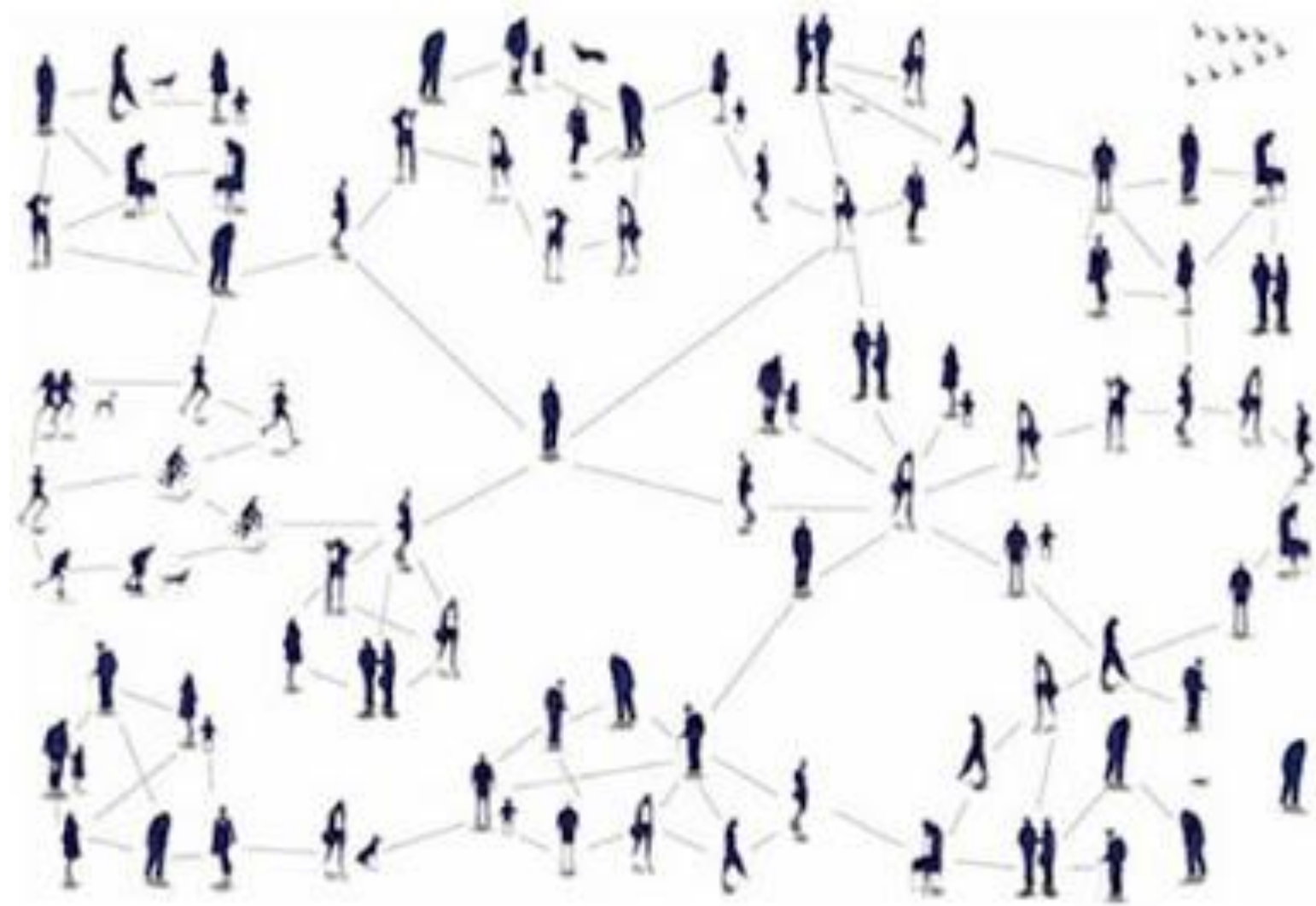


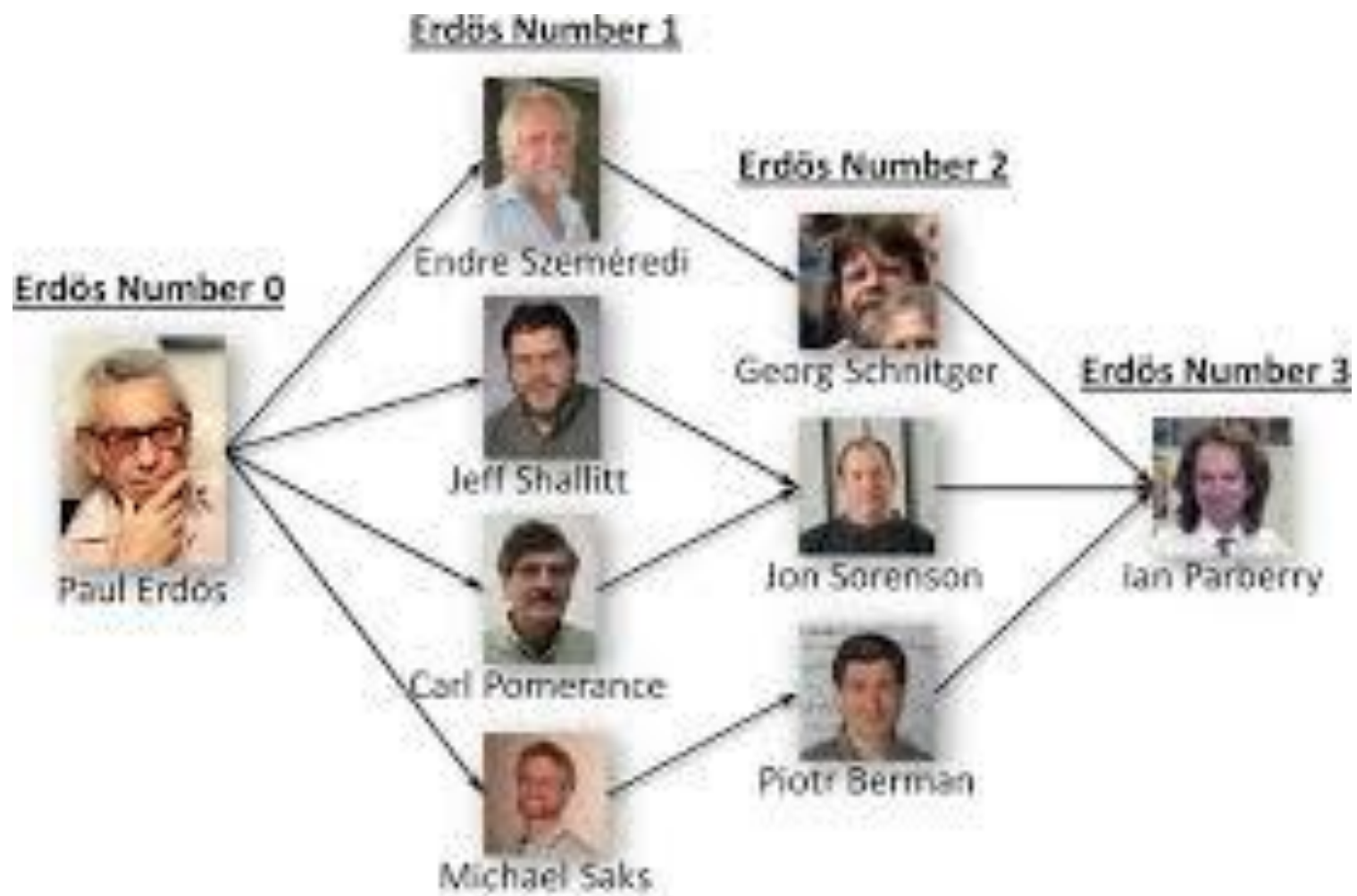
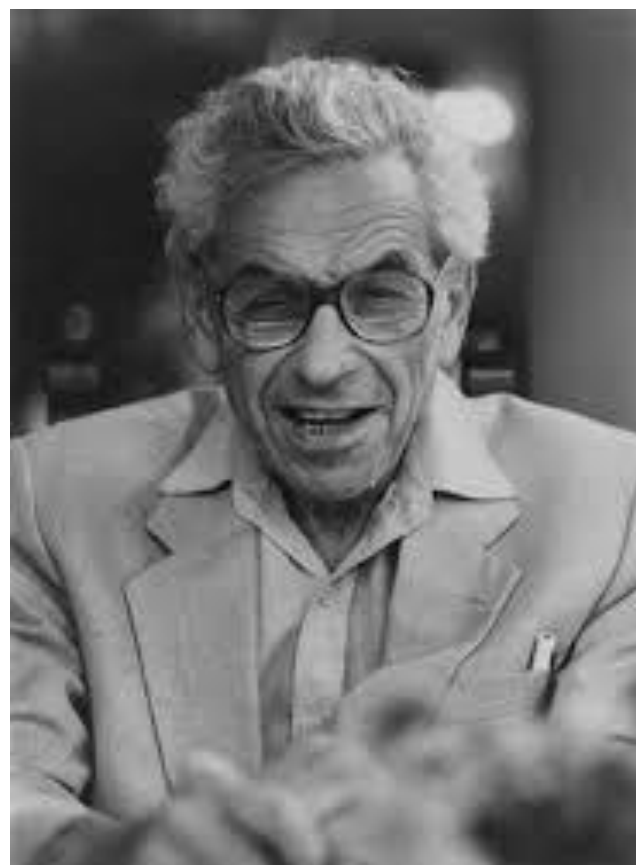




1 000 000 000 000 066 600 000 000 000 001

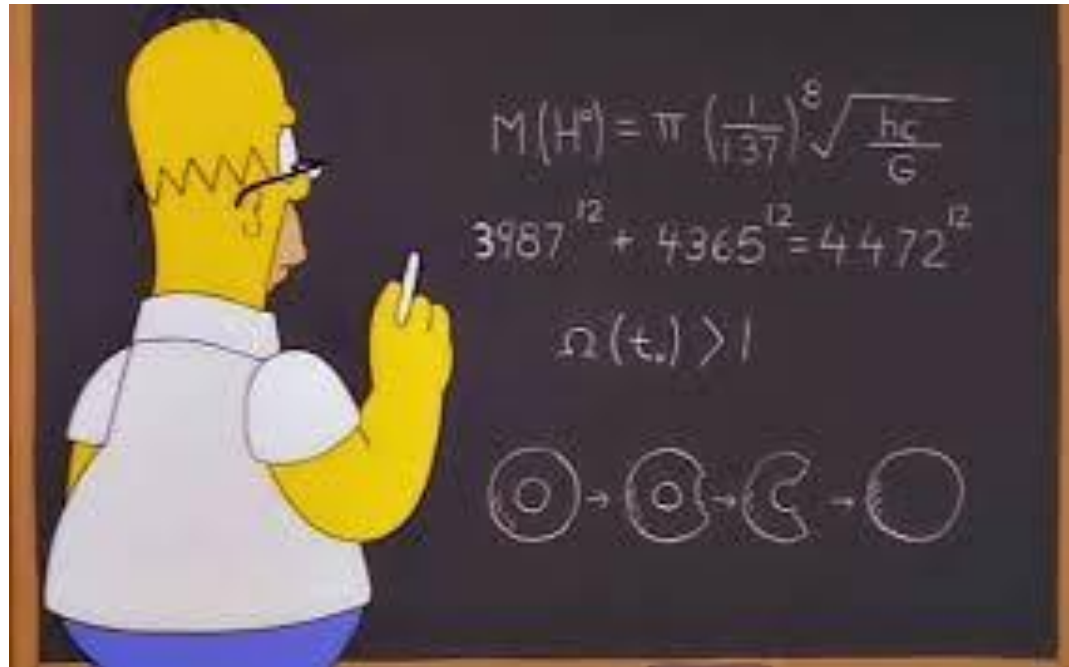








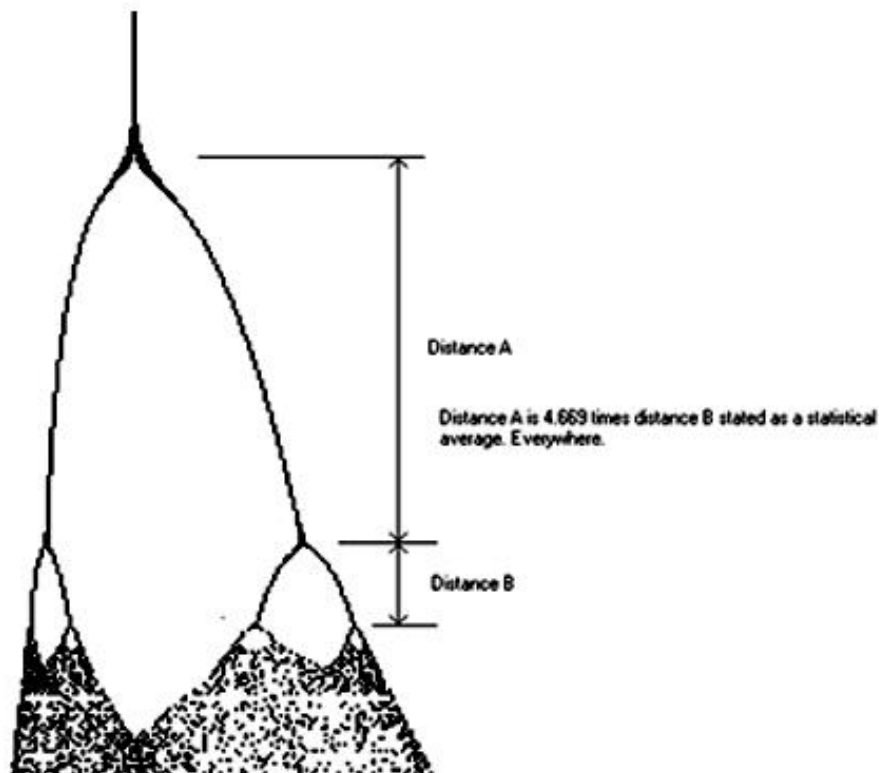
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EDIT ASY0155.DEND.SRCL19 (PROGR
Command ==>
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000001 IDENTIFICATION DIVISION.
000002 PROGRAM-ID, QUAQAR,
000003
000004 ENVIRONMENT DIVISION.
000005
000006 CONFIGURATION SECTION.
000007 SOURCE-COMPUTER, DELL.
000008 OBJECT-COMPUTER, DELL.
000009
000010 INPUT-OUTPUT SECTION.
000011
000012 DATA DIVISION.
000013 WORKING-STORAGE SECTION.
000014 01 EMPLOYEE-RECORD.
000015
000016 02 EMP-NAME.
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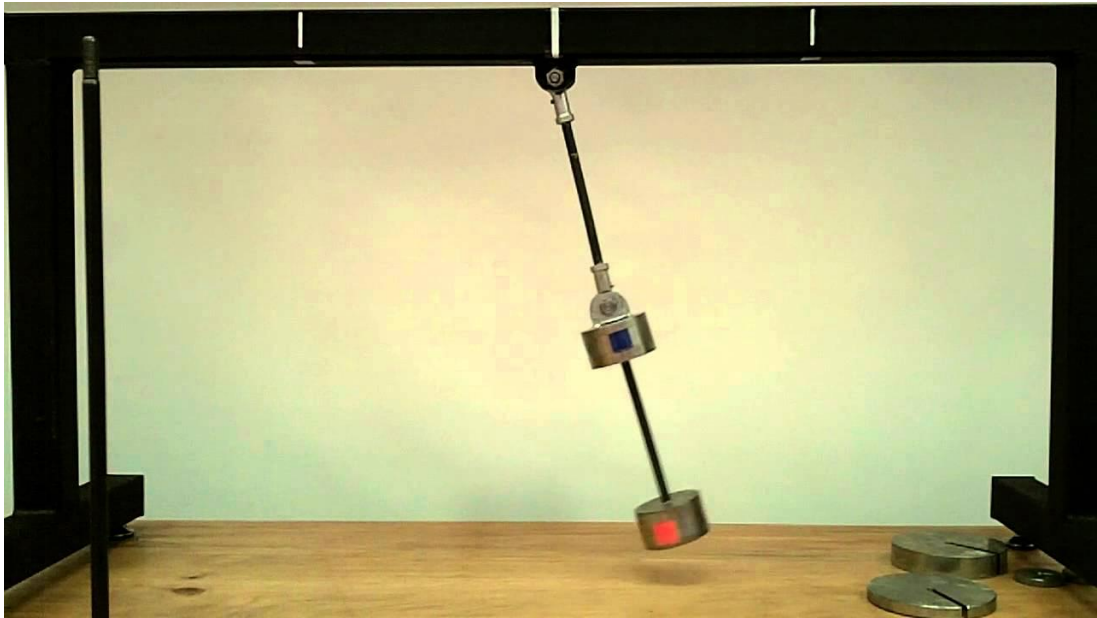


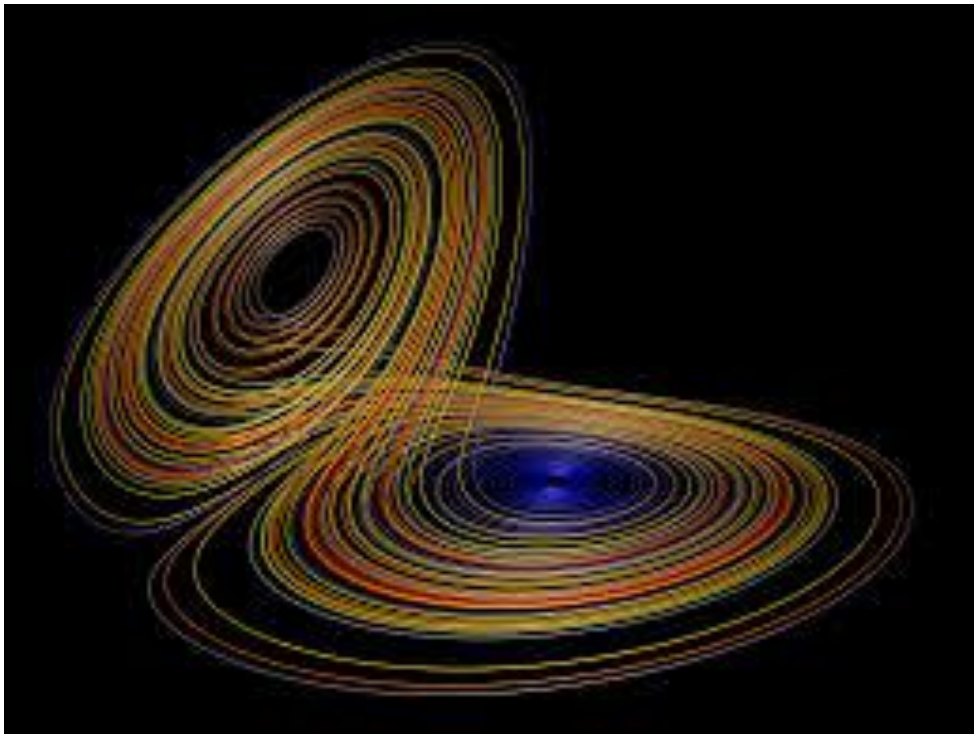


$\delta \approx 4,669\,201\,609\,102\,990\,671\,853\,203\,821\,578\,439, \dots$



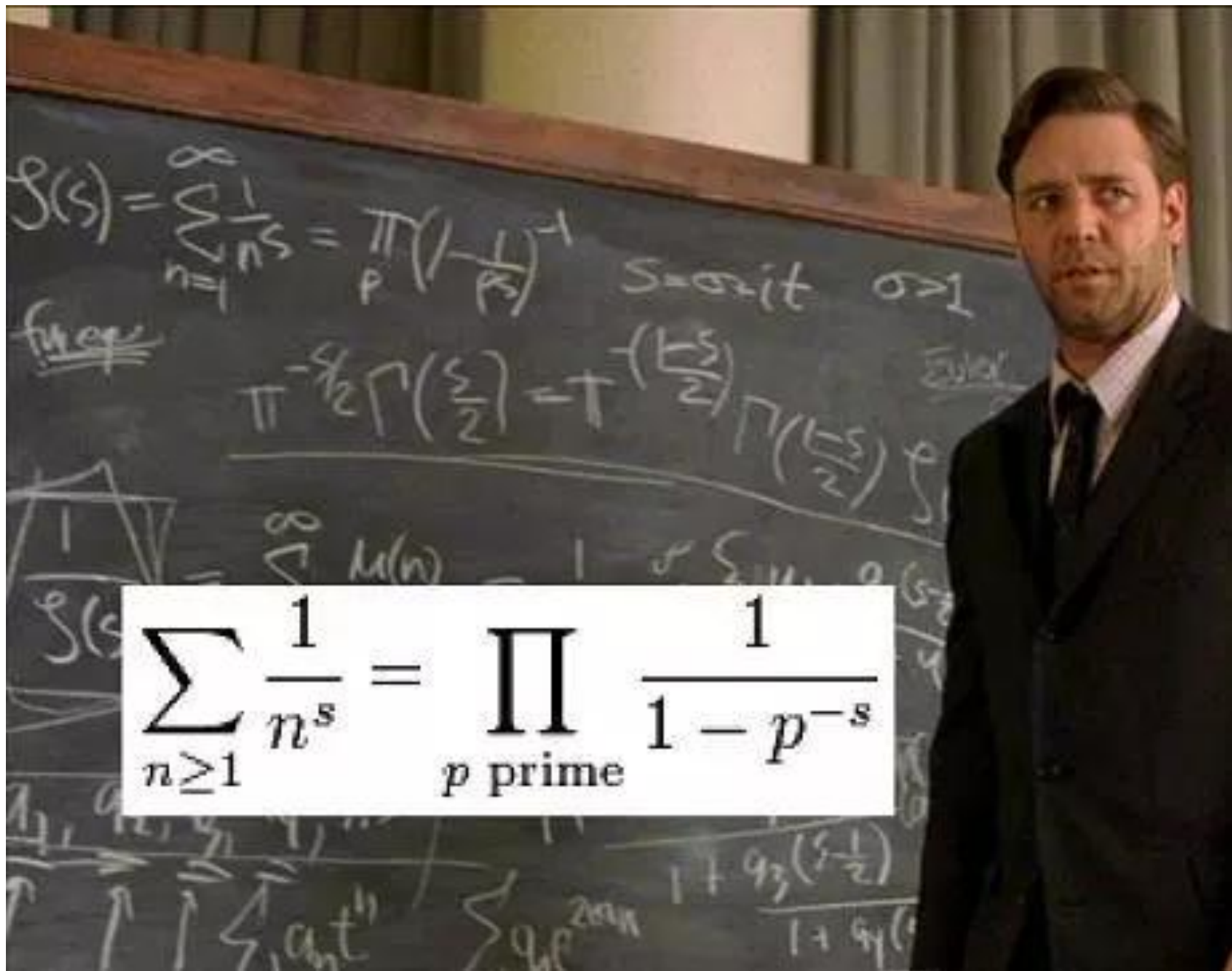
$\alpha \approx 2,502\,907\,875\,095\,892\,822\,283\,902\,873\,218\,478 \dots$





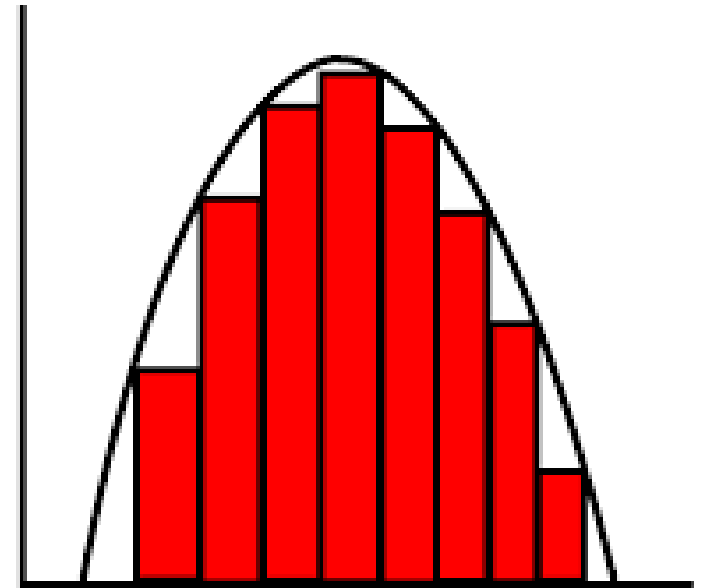
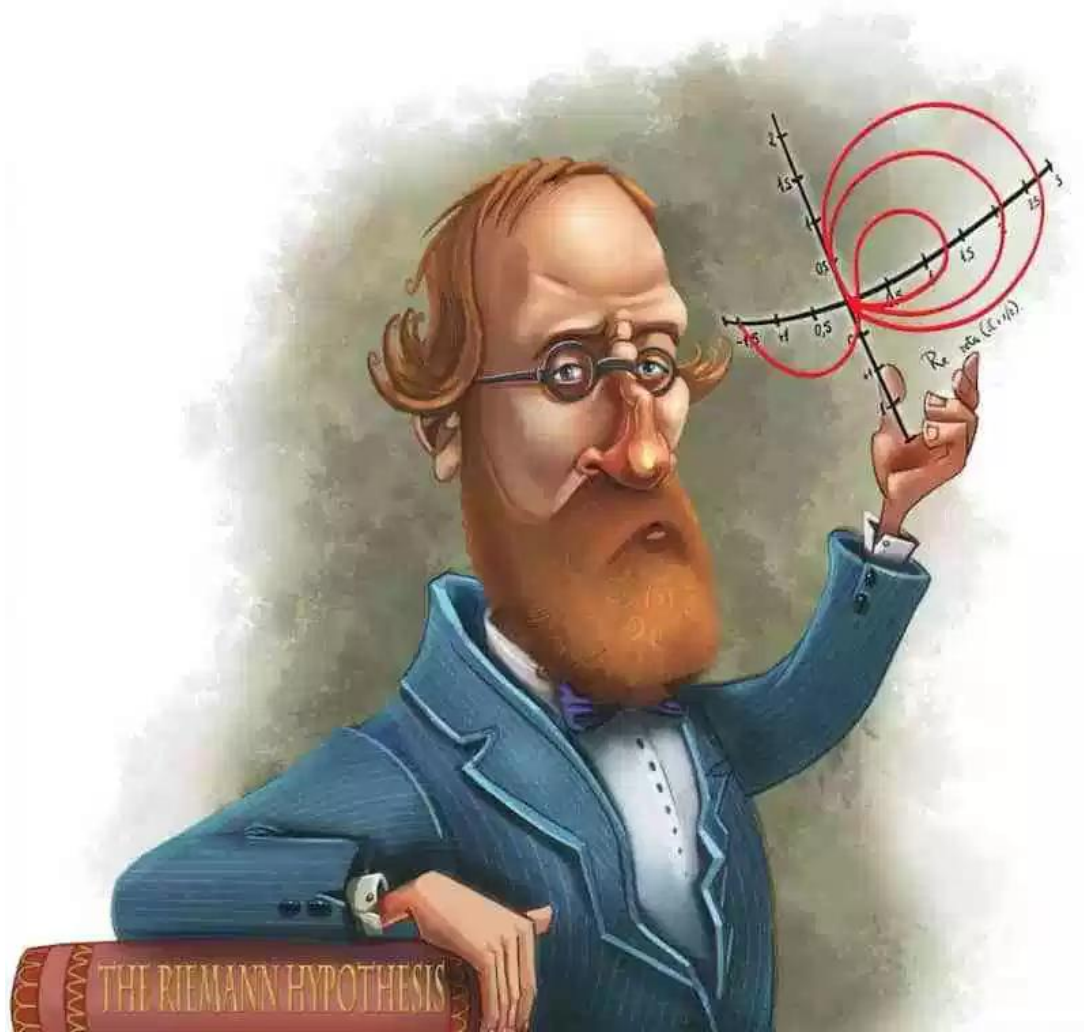
$$\delta = \lim_{n \rightarrow \infty} \frac{\mu_{n+1} - \mu_n}{\mu_{n+2} - \mu_{n+1}}$$

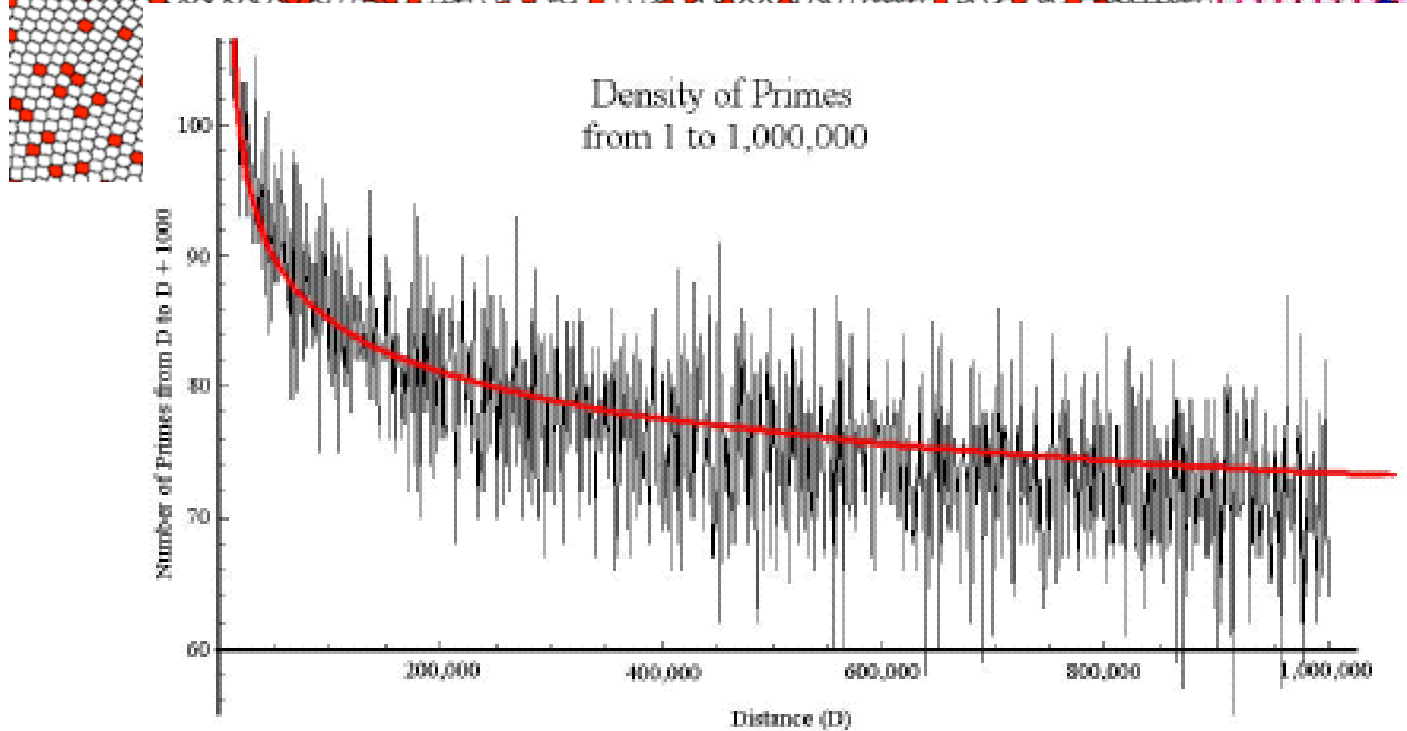
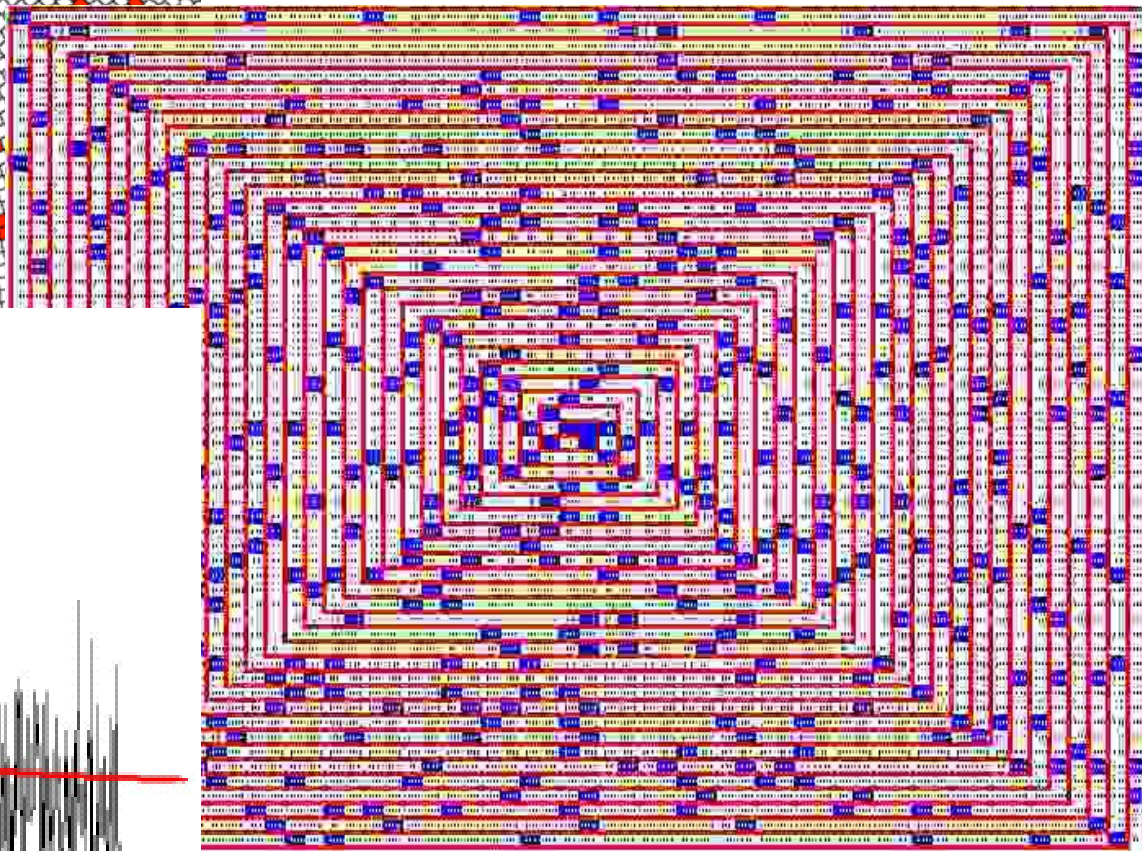
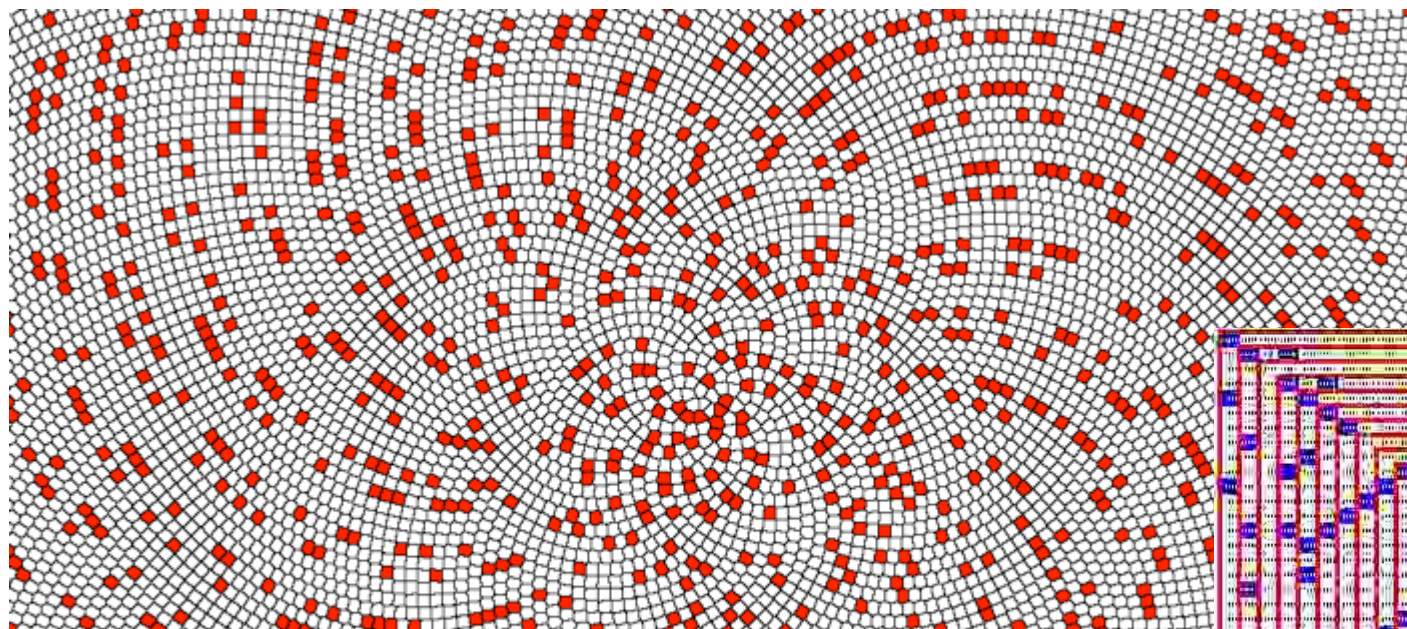




$$\sum_{n \geq 1} \frac{1}{n^s} = \prod_{p \text{ prime}} \frac{1}{1 - p^{-s}}$$

$$\zeta(3) = 1, 20205\ 69031\ 59594\ 28539\ 97381\ 61511\ 44999\ 07649\ 86292 \dots$$









10¹⁰⁰



Cuando te enteras de que el origen de la palabra **Google** es “**googol**”, que es un término matemático que se usa para referirse a una cifra de **10 elevado a 100**, es decir, **un 1 seguido de 100 ceros**, haciendo referencia a la enorme cantidad de páginas web que **Google puede indexar**





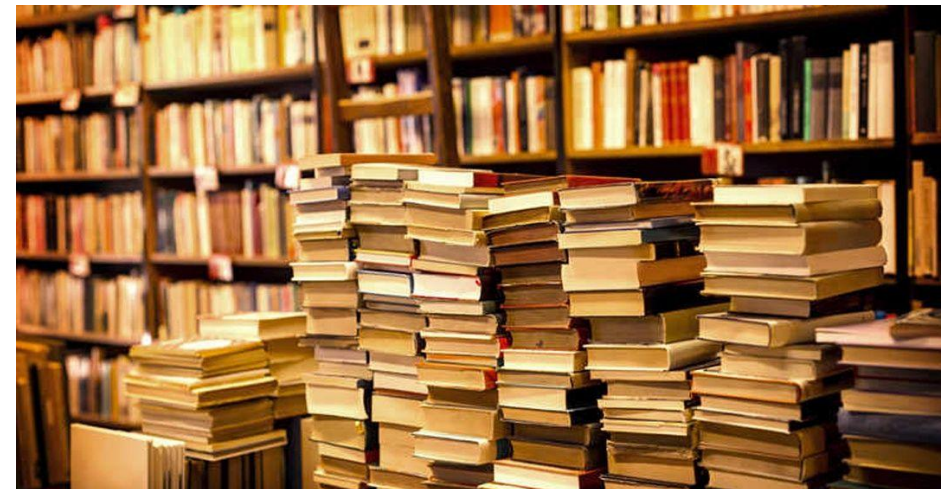
10^{30}

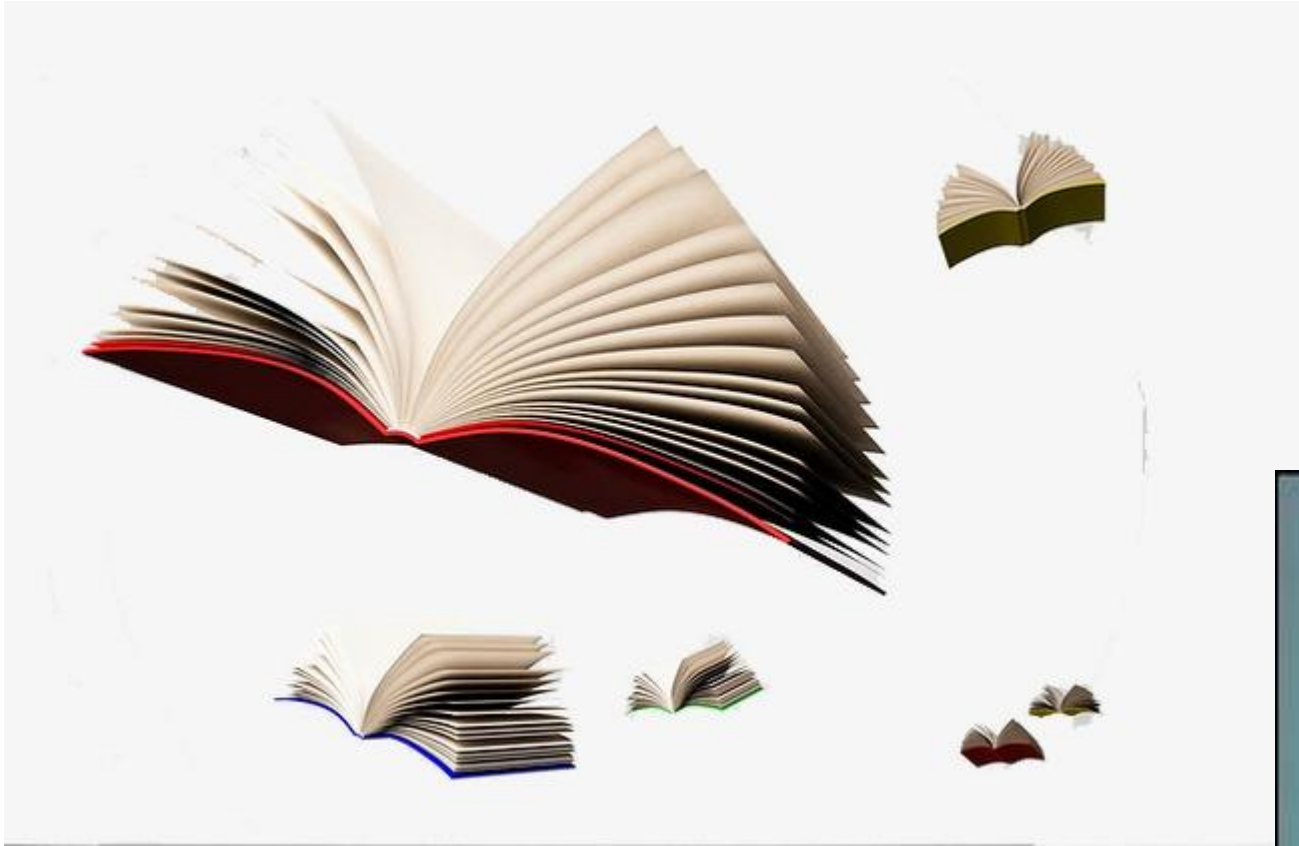


10^{20}



10^{16}





Googolplex

Googol





El Guarromántico
@Guarromantico_



Se estima que existen más
ceros in un googolplex que
partículas en el universo
observable



*TO BE
CONTINUED...→*