



**La MATEMATICA
alla televisione,
sui giornali e sui media**



differenza tra

TAN **TAEG**

A cartoon illustration of a man with a beard and glasses, wearing a suit and tie, with his arms outstretched in a shrugging gesture.A small circular logo with a white background and a blue border, containing a stylized letter 'E'.

Volatilità

A hand is pointing at a candlestick chart on a dark blue background. The chart shows several green and orange candles, indicating price fluctuations. The background of the entire image is a photograph of the Bull and Bear statues in front of the New York Stock Exchange building.

Mercati finanziari

A blue silhouette of a bull and a bear is shown against a dark blue background. A glowing blue line graph is overlaid on the silhouettes, representing market trends. The background of the entire image is a photograph of the Bull and Bear statues in front of the New York Stock Exchange building.

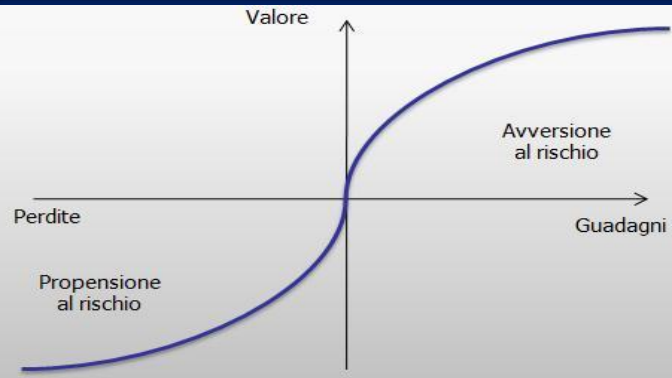
(Bullish – Bearish)

A stack of gold coins is on the left, a pen is in the center, and a document with a bar chart is on the right. The background of the entire image is a photograph of the Bull and Bear statues in front of the New York Stock Exchange building.

Derivati finanziari
(titoli rischiosi, opzioni,
forwards, futures, swaps...)



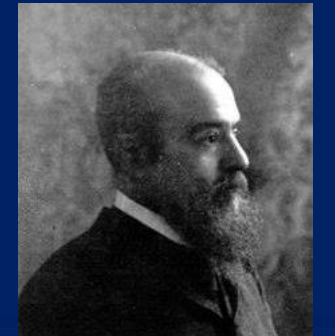
FINANZA CREATIVA



RISCHIO

Avversione/Propensione/

PARETO



UTILITÀ DEL CONSUMATORE

Numero di Nepero o costante di Eulero



Identità di Eulero

$$e^{i\pi} + 1 = 0$$

Significato finanziario

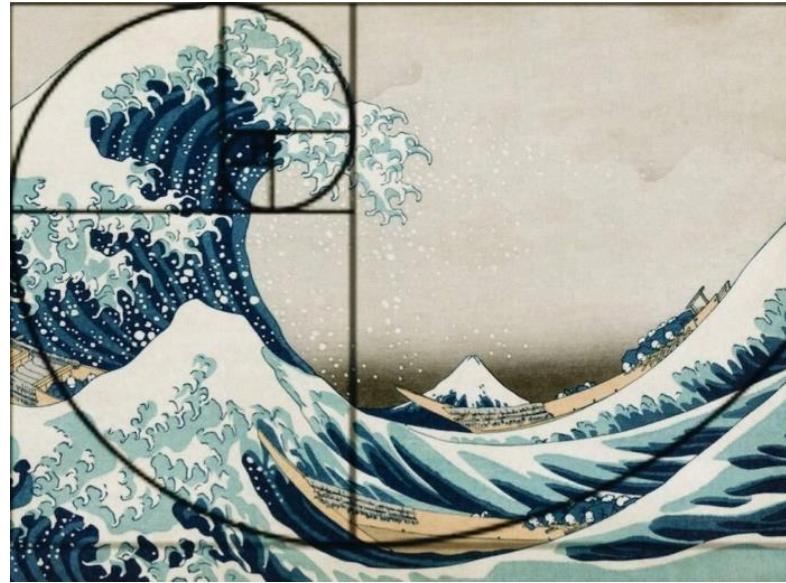
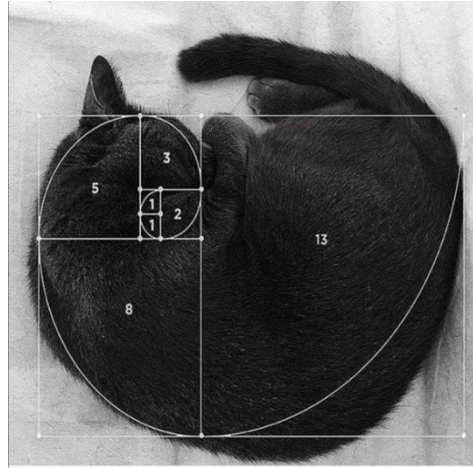
*Ai modesti o vanitosi
ai violenti o timorosi
do, cantando gaio ritmo,
logaritmo...*

2,718281828459...

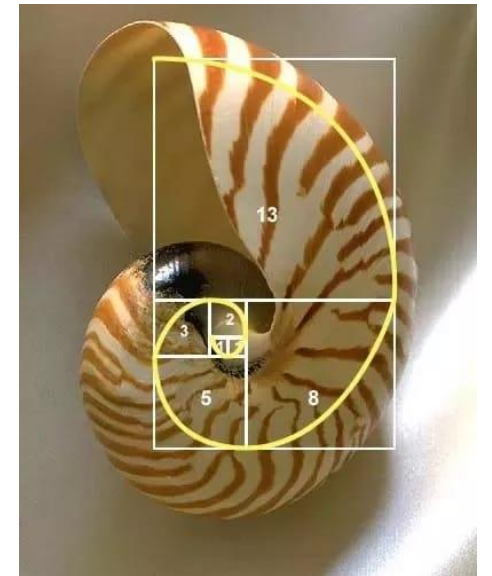
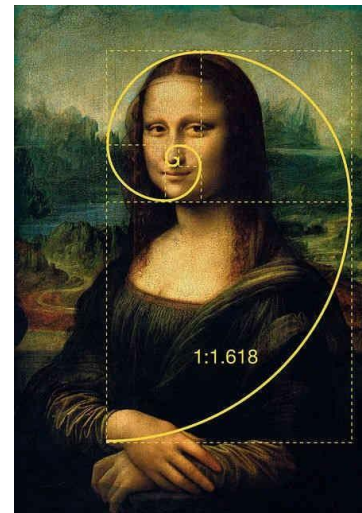
Giorgio Rabbeno - 1935



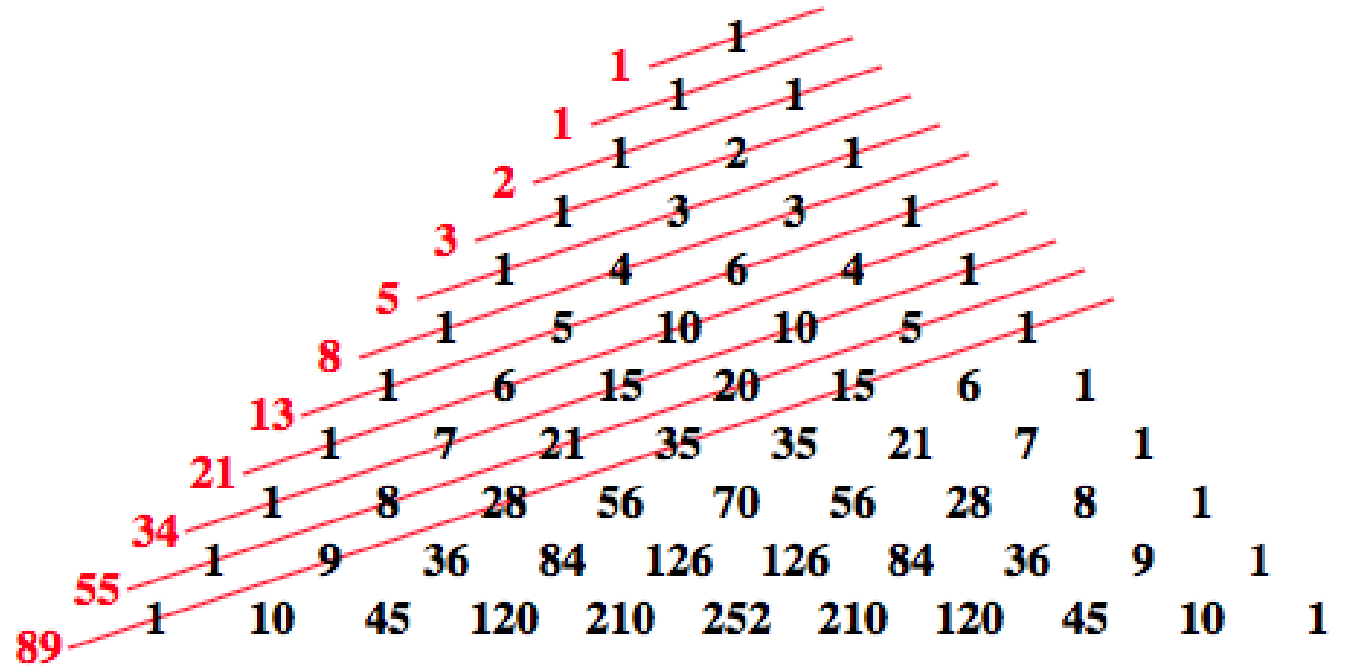
$$e = \lim_{n \rightarrow \infty} \left(1 + \frac{1}{n} \right)^n$$



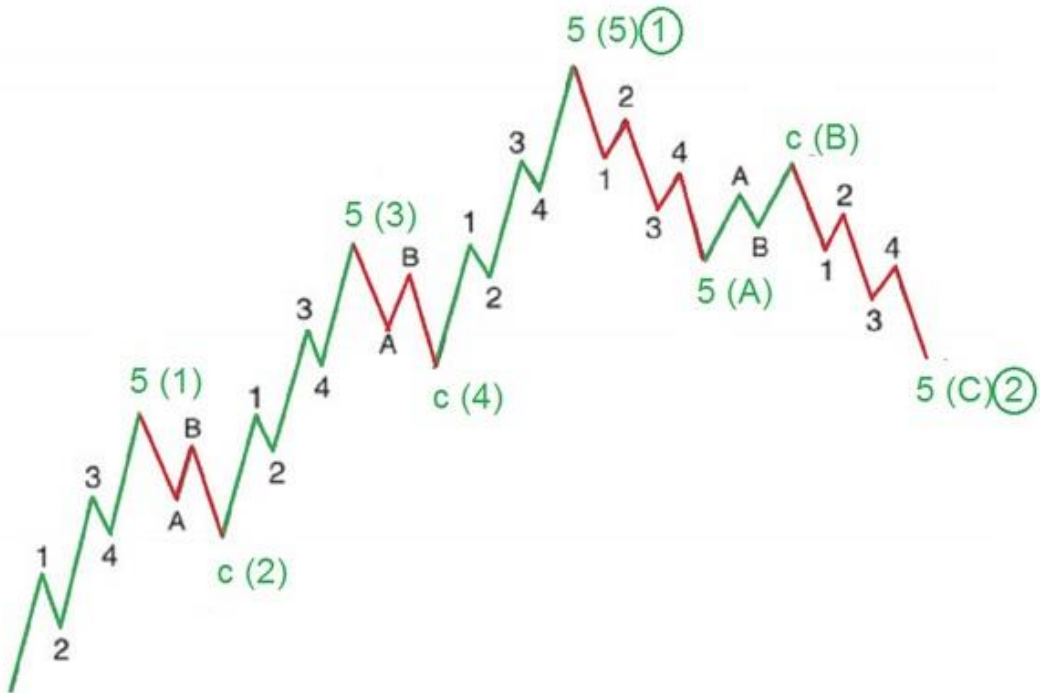
Rapporto aureo o
costante di Fidia:
 $\phi = 1,6180339887 \dots$

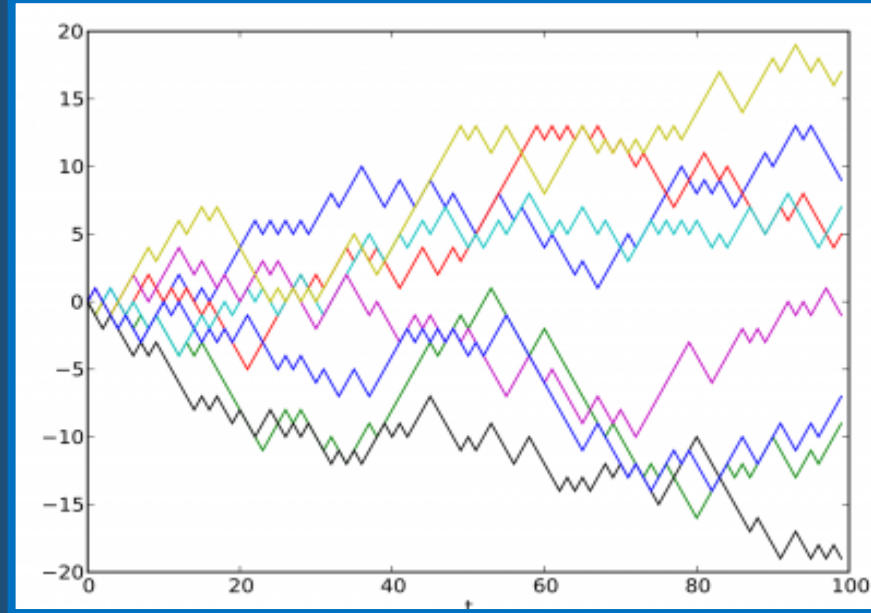


La successione di Fibonacci nel triangolo di Pascal



I numeri di Fibonacci nella teoria delle onde di Elliot

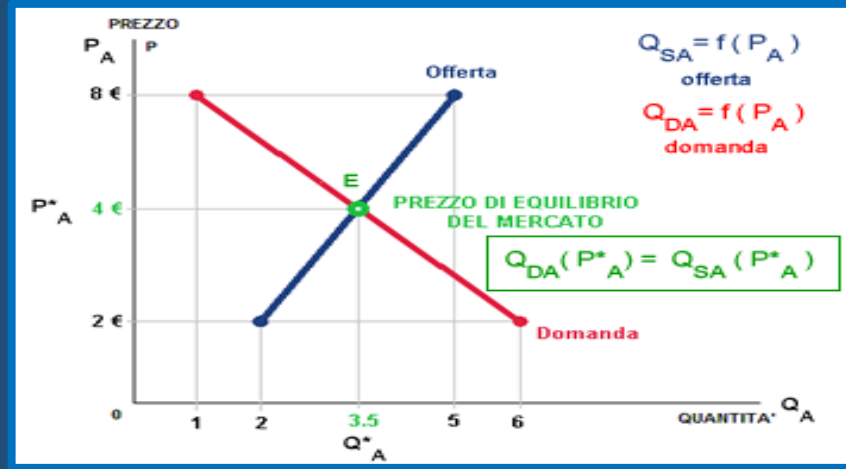




VALUTAZIONE NEUTRALE AL RISCHIO

PROCESSI STOCASTICI E MARTINGALE

EQUILIBRIO DI MERCATO



Metodi di Indagine



Analisi Matematica classica
(caso deterministico)+
Analisi Stocastica
(caso non deterministico)



$$C(S, t) = N(d_1)S - N(d_2)Ke^{-r(T-t)}$$

$$d_1 = \frac{1}{\sigma\sqrt{T-t}} \left[\ln\left(\frac{S}{K}\right) + \left(r + \frac{\sigma^2}{2}\right)(T-t) \right]$$

$$d_2 = \frac{1}{\sigma\sqrt{T-t}} \left[\ln\left(\frac{S}{K}\right) + \left(r - \frac{\sigma^2}{2}\right)(T-t) \right]$$
$$= d_1 - \sigma\sqrt{T-t}$$

Formula di Black-Scholes-Merton (1973)