

Tips

Euler's constant (e) \Rightarrow

$$\underline{\underline{e \approx 2.7}}$$

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

$$\begin{aligned} k^{\text{th}} \text{ term of } \left(1 + \frac{1}{n}\right)^n &= \frac{n(n-1)\dots(n-k+1)}{k!} \left(\frac{1}{n}\right)^k \\ &= {}^n C_k \left(\frac{1}{n}\right)^k \end{aligned}$$

Euler's formula for Polyhedrons \Rightarrow

$$F + V - E = 2$$

number of faces number of vertices number of edges in polyhedrons

eg for cube

$$F + V - E = 6 + 8 - 12 = 14 - 12 = 2$$

\rightarrow ~~check~~ Euler's formula proved

Euler's formula equation \Rightarrow

$$e^{ix} = \cos x + i \sin x$$

euler's constant \rightarrow e
real number \rightarrow x
 i \rightarrow i
 ix \rightarrow ix