

# *Interdisciplinary task*

## ***NUMBERS: DESCRIPTORS OF REALITY***

# Prerequisites

- ✓ ***Concept of numeric entity;***
- ✓ ***Knowledge of the techniques in arithmetic and algebraic;***
- ✓ ***Knowledge of Euclidean geometry theories;***
- ✓ ***Readout of a diagram***

# Objectives

- ✓ *Being able to make links between factual events and numeric entities;*
- ✓ *Comprehending phenomena throughout symbols;*
- ✓ *Understanding philosophical principles by means of logics*

# Methodologies/instruments

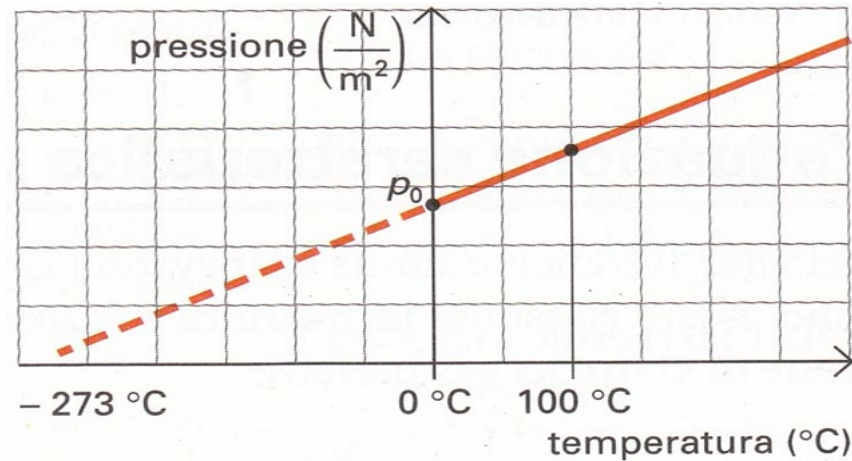
- ✓ ***Class lesson;***
- ✓ ***Group work;***
- ✓ ***Smartboard;***
- ✓ ***PC;***
- ✓ ***Lab.***

# Numerology in DANTE's «Divina Commedia»



- 1** *God, Origin, Unique, Absolute ...*
- 3** *Trinity ...*
- 4** *Numbers of times Dante faints during his whole journey  
- the times Virgilio smiled at Dante to reassure him -  
sides of the square – justice ...*
- 7** *The days of the week – Sacraments – planets –  
“70” as symbol of perfect life ...*
- 9**  *$3^2$ , Sacred in ancient times...*
- 10**  *$9+1$ ,  $4+3+2+1$ , heavens + empyrean, Tetraktys ,  
Perfection ...*
- 100**  *$3 \times 33 + 1 = 10^2$*

# - 273° ABSOLUTE ZERO



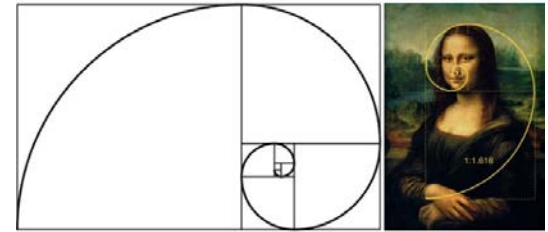
The absolute zero (-273° C) is the minimum that temperature can reach in nature.

This value of temperature is called absolute zero and its value is assumed zero in the Kelvin scale.

# The whole : to the section = the section : the remaining part

"Geometry involves two great treasures:

- 1) **Theorem of Pythagoras**;
- 2) **Golden Section** of a segment.

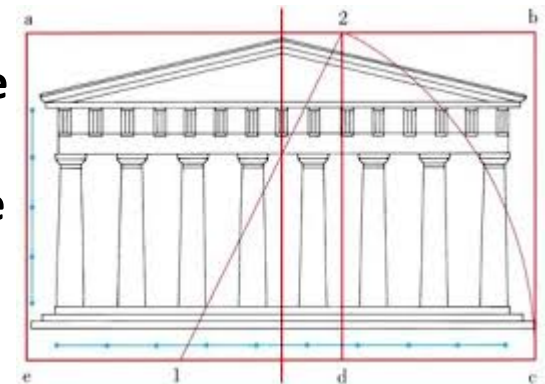


The former can be compared to a golden thing, the latter can be compared to a precious jewel.

Among all the possible proportions, the golden section seems to be the true inspiration of beauty, of the creation, of its creator, thus Divine.

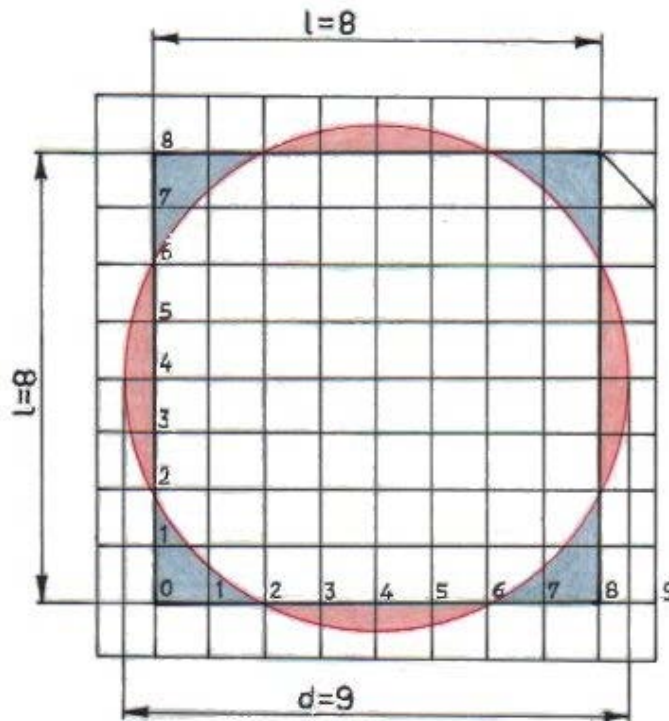
## *The Parthenon*

From the metric-dimensional examination of the facade interesting discoveries have been made concerning proportions: the total height is the golden section of the width of the front part. Thus, the facade has got the dimensions of a golden rectangle.



What is the surveyor who lives by his wits  
To measure the circle and does not find,  
in thinking, the principle he totally needs (from «Divina Commedia»'s Paradise, canto 33)

The quartering of the circle



$$2,828 < \pi < 4$$

The quartering of the circle is a classical problem of the Greek geometry.

The objective is to build, by the use of only ruler and compass, a square with the same area of the circle.

Only in 1882 the impossibility of this concept was firmly demonstrated.

Solving the problem of the quartering of the circle means finding the algebraic value of  $\pi$ , which is impossible.

It is possible, instead, to build a square with a very similar area to the one of the given circle.



# *“Zero and infinite are not numbers but emotions”*

Question: *“... Can I say that zero apples are the same as zero kisses?  
Is there a quality difference between the first and the second zero?”*

Answer: *“It depends on the interlocutor”* (said Renato Caccioppoli).

*“If you are talking to a Mathematician you can use the zero in the same way as with 3 or 8. If you are talking to a poet you cannot! To a poet, zero and infinite are not numbers but emotions”*

Taken from “Order and Disorder” by L. Decrescenzo

# Conclusions...

***The aim of this lesson is to give strength and importance to the numeric entity through its various potentialities:***

- ✓ It describes the scientific phenomena with rigour...***
- ✓ It creates beauty in art...***
- ✓ It orientates the whole towards perfection...***

***THANKS FOR YOUR ATTENTION***