AIM Special Session on Math Circles for Makers, Creators, and Artists, III

JMM 2025 Thursday 1/09/25 9:30 - 10 am

# “Recreational Math from the Book Series La Science Amusante by Tom Tit, Librairie Larousse-Paris”

Lauren Siegel
Executive Director, MathHappens Foundation
www.mathhappens.org
Austin, Texas

SVG Activity Sheet

PDF Activity Sheet

**Paris 2022**
**Matrix - Imaginary Conference,**

# Within a walk….

Institute Poincare

Antique Book Stores

Cabaret

Pantheon

Cafes




# Out in the suburbs on Saturday….


# A lot of old math books!

Children's Math

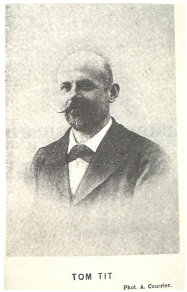
Rural School Math for Adults

Addition and Subtraction for Primary Schools

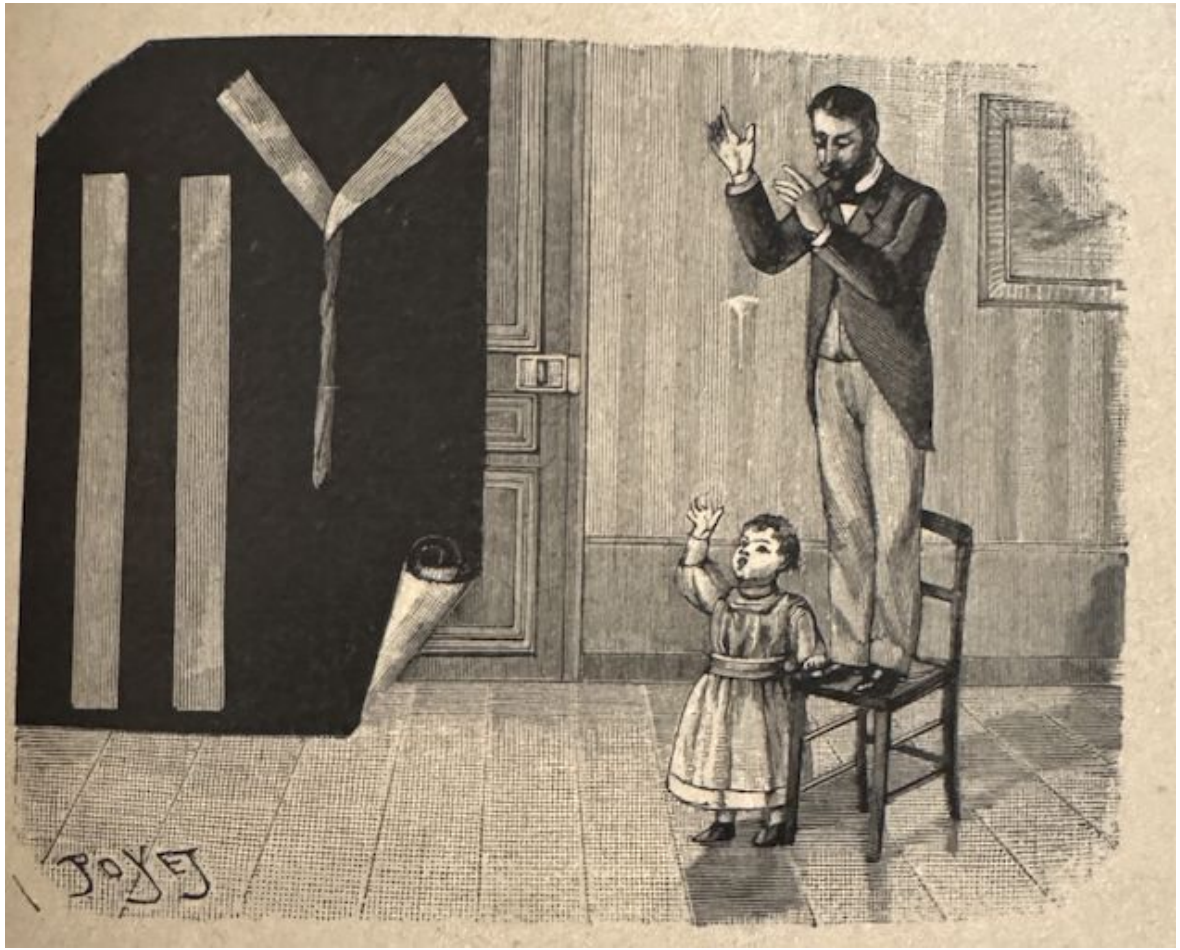
# These seemed special!

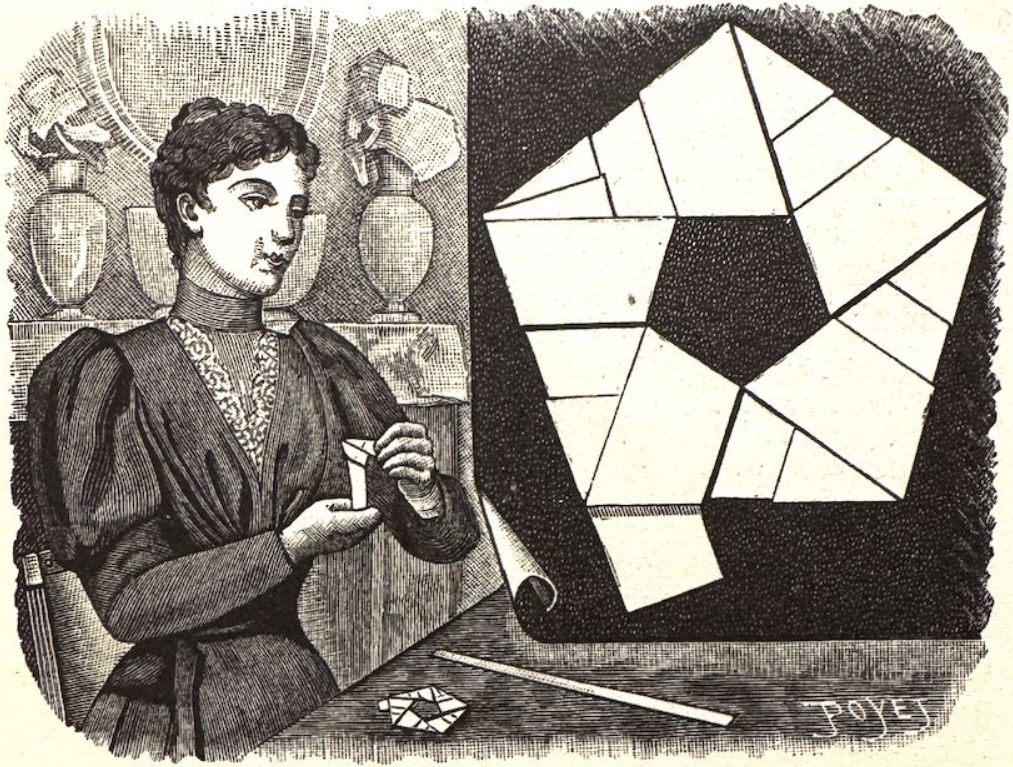
*La Science Amusante* is a three-volume book by Tom Tit (real name Arthur Good) that was published in Paris in 1890, 1892, and 1893. The book is a collection of articles about scientific experiments that use everyday objects, which were previously published in the French magazine *L'Illustration*.

## *La Science Amusante* Series
## 300 Nouvelles Experiences
## By Arthur Goode/Tom Tit

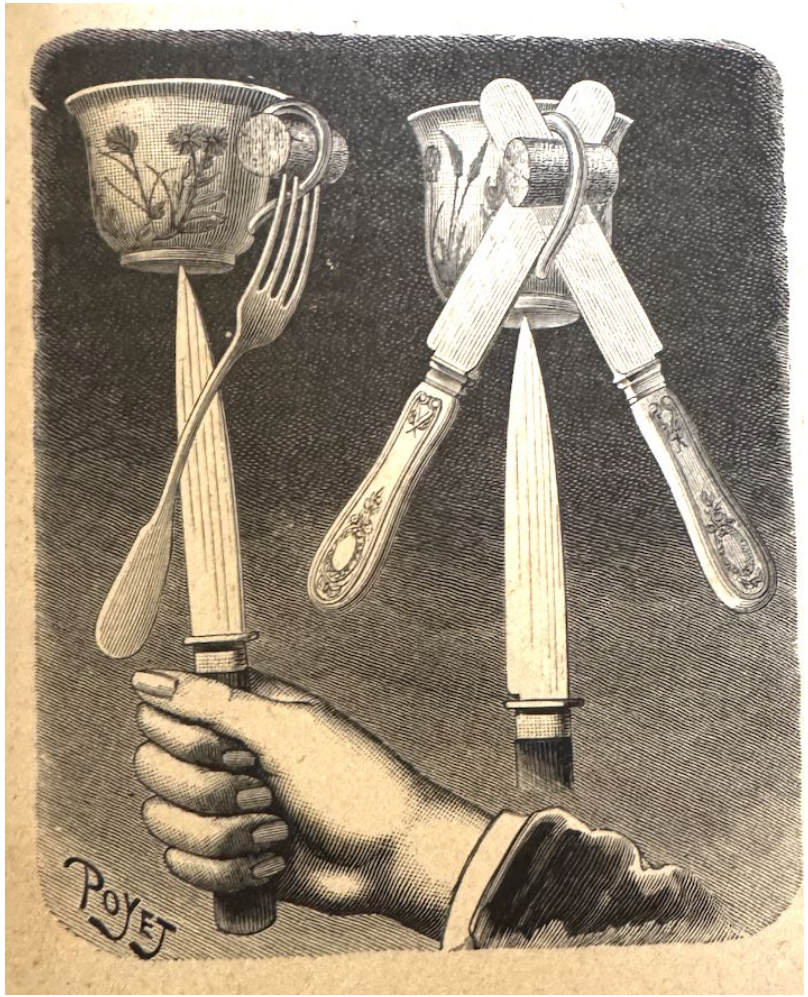



[Online version (third book)](https://play.google.com/books/reader?id=Jg-e60eEyO0C&pg=GBS.PA194&hl=en):
https://play.google.com/books/reader?id=Jg-e60eEyO0C&pg=GBS.PA194&hl=en


BOYER

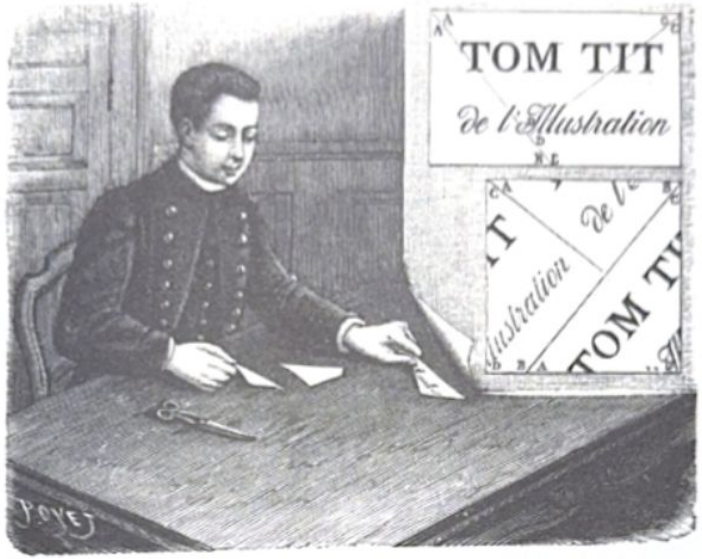



**Les sept Pentagones.**


POYET

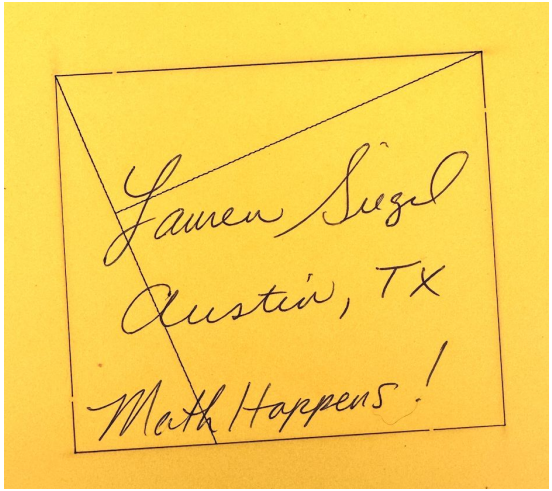
# Calling Card Activities:  Rectangle to a Square in 2 cuts

V. — PROBLÈMES




**Rectangle changé en carré, en deux coups de ciseaux.**

Select a calling card, add your name, break it apart and rearrange into a square.



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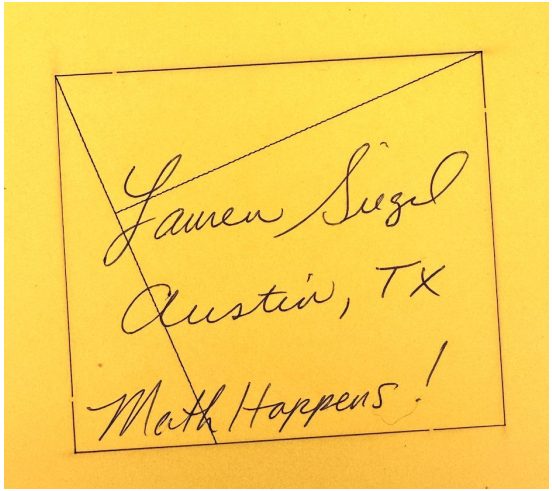


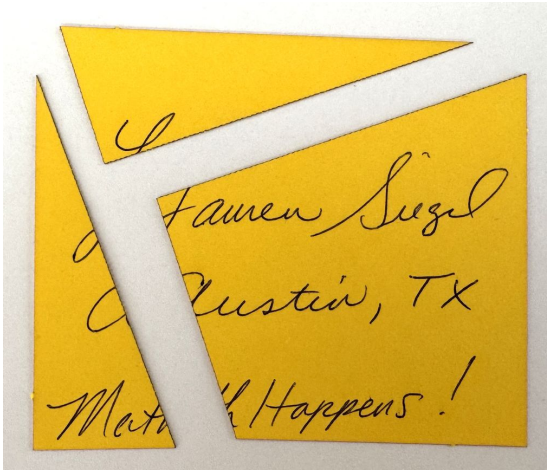

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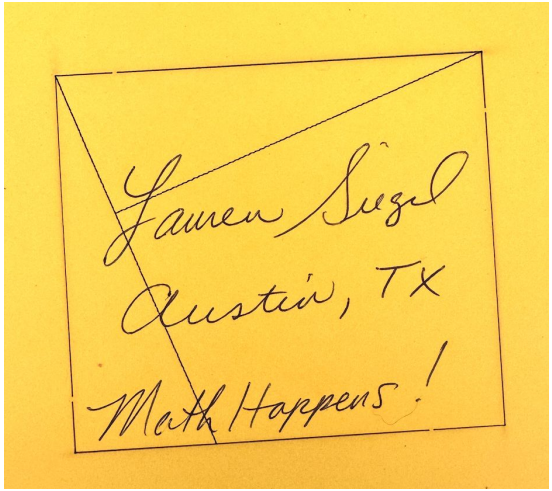
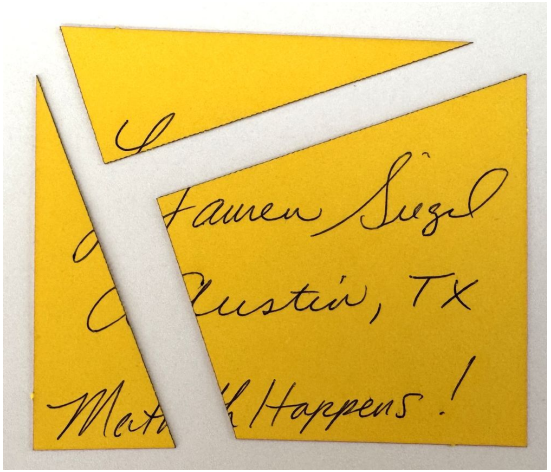
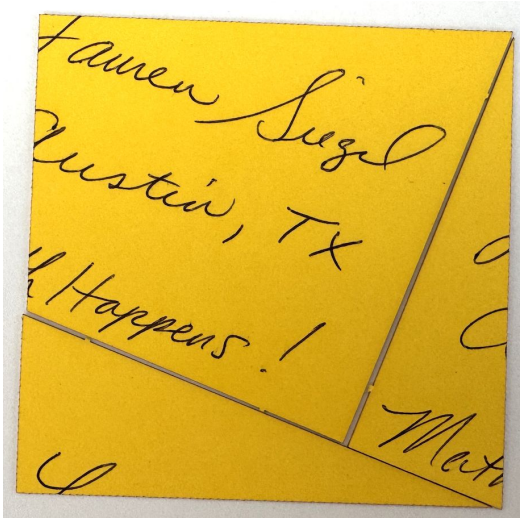
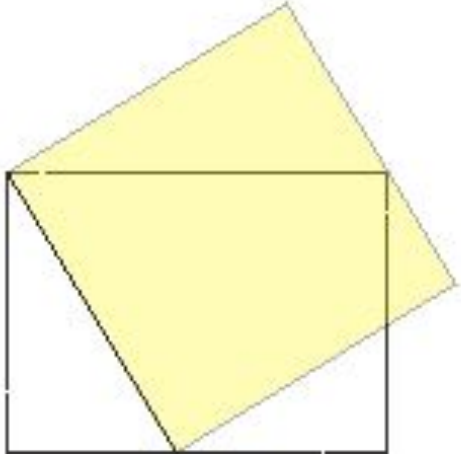


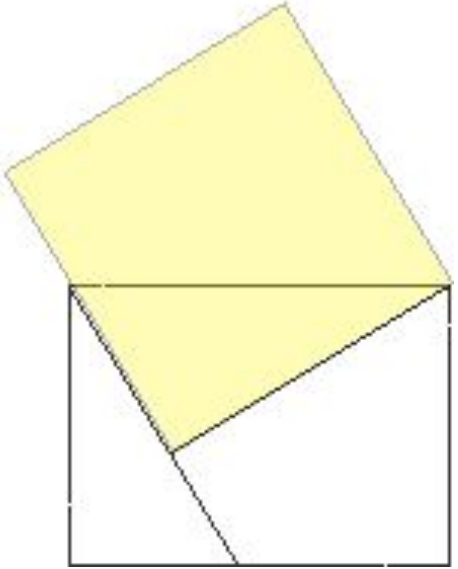



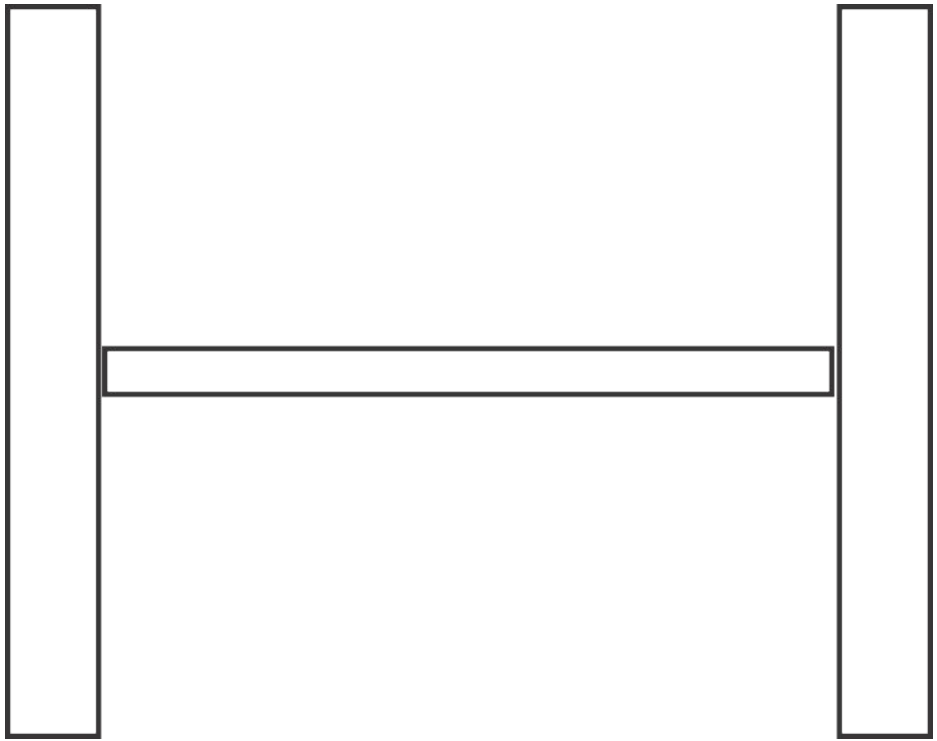
# Make your own using a Rectangle and Square of Equal Area

What is happening here?





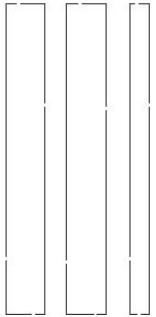
# Calling Card Activities: Optical Illusion



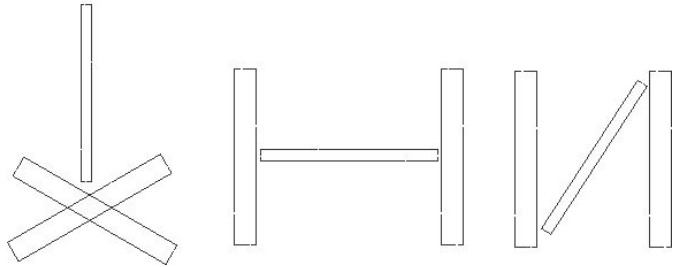
Which is longer?

# Calling Card Activities: Optical Illusion

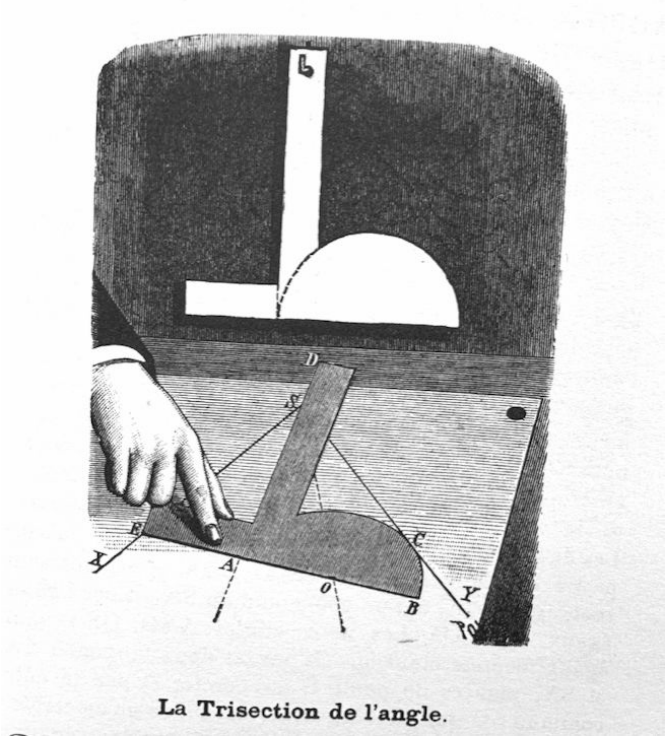

Cut three equal strips with the third 1/2 as thick as the first two.



Arrange as follows:

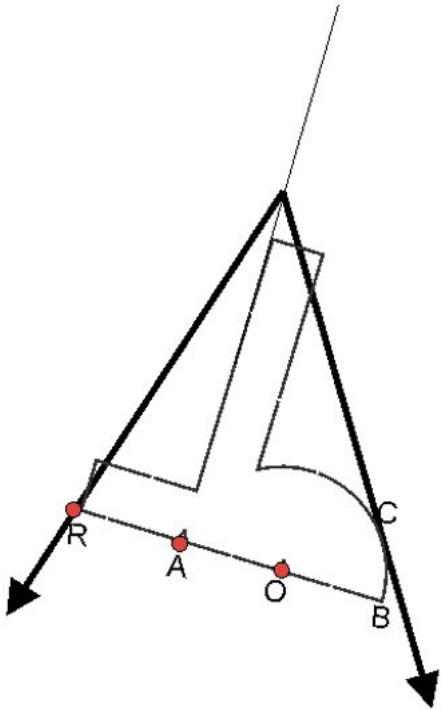


# Calling Card Activities:  Use this Tool to Trisect any angle

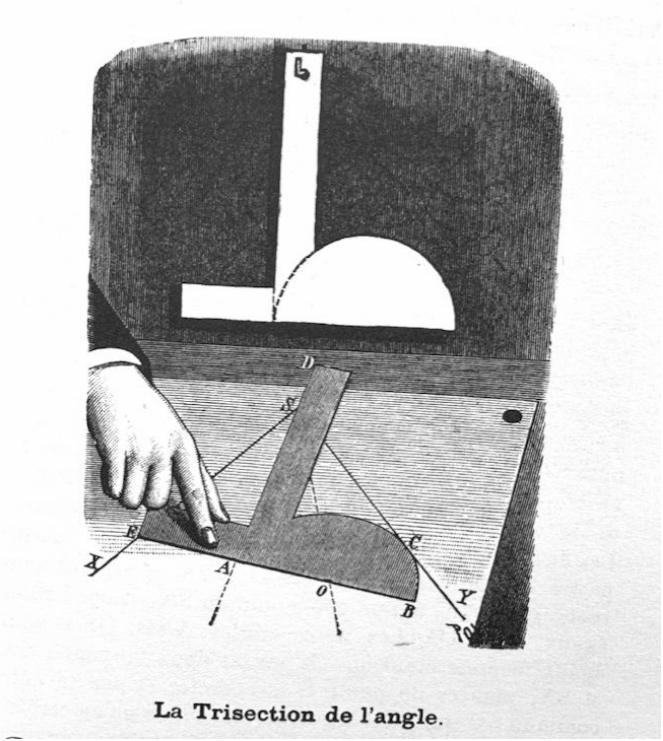



La Trisection de l'angle.

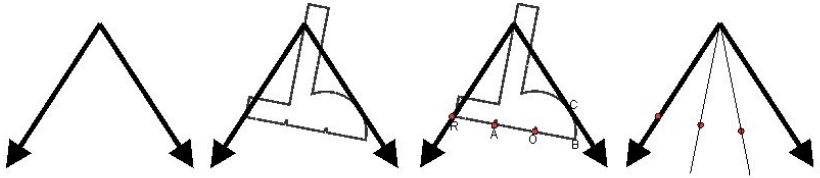
# Calling Card Activities:  Use this Tool to Trisect any angle



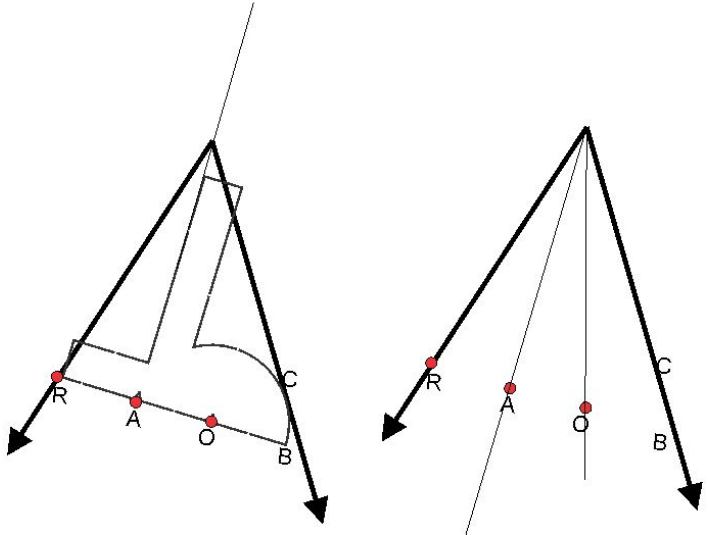
# Notice the location of R, A, O, B and C trisect the angle!




La Trisection de l'angle.



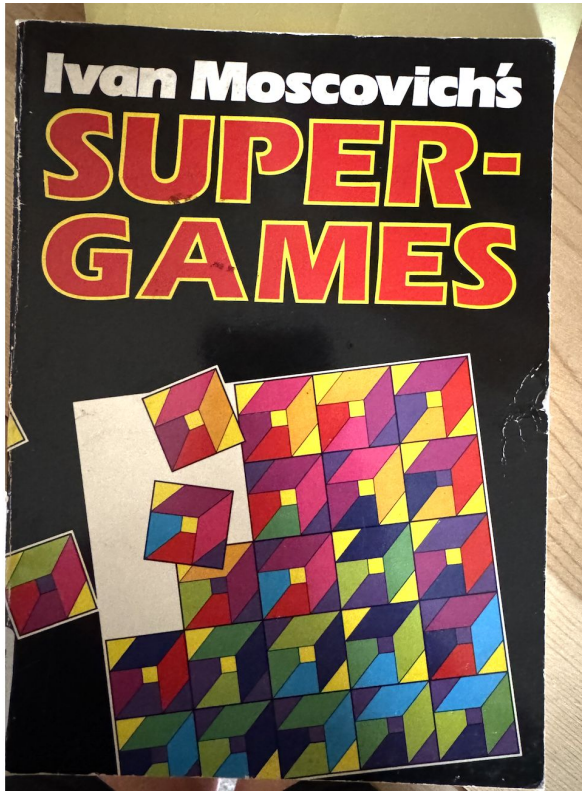
Two Examples. Guidance on the proof is in the text

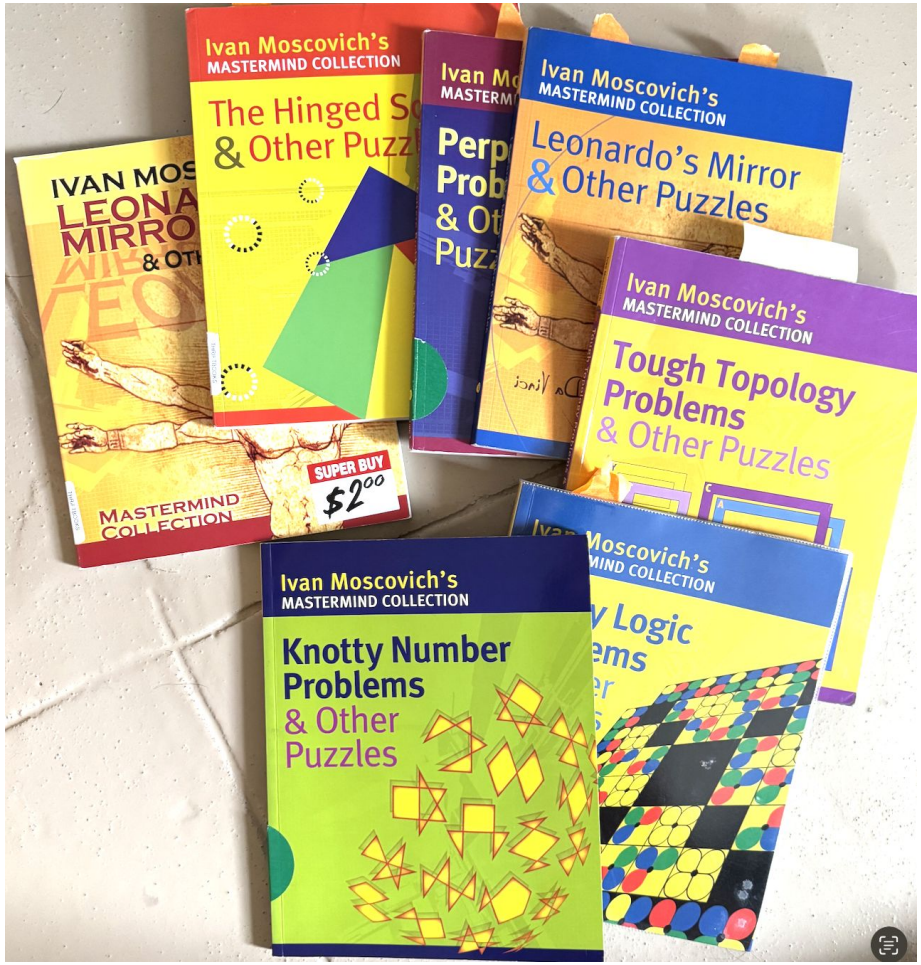


## Scans from the Books, with text in French

Translate with the photo function on your phone to find the instructions and further explanations in the books.

# Where else can you find great ideas for math-making projects?


Ivan Moscovich's
SUPER-
GAMES


Ivan Moscovich's
MASTERMIND COLLECTION
The Hinged S
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MASTERMIND COLLECTION
Leonardo's Mirror
& Other Puzzles
Ivan Moscovich's
MASTERMIND COLLECTION
Tough Topology
Problems
& Other Puzzles
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MIND COLLECTION
y Logic
ems
Ivan Moscovich's
MASTERMIND COLLECTION
Knotty Number
Problems
& Other
Puzzles

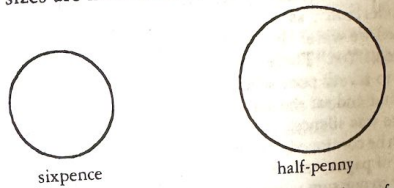
# REDISCOVERED LEWIS CARROLL PUZZLES

Newly Compiled and Edited by Edward Wakeling

## *The Impossible Hole*

Another party trick that Lewis Carroll performed concerned two coins, a sixpence and a half-penny. Readers will remember that a sixpence is smaller in size than a half-penny.

The relative sizes are illustrated here:

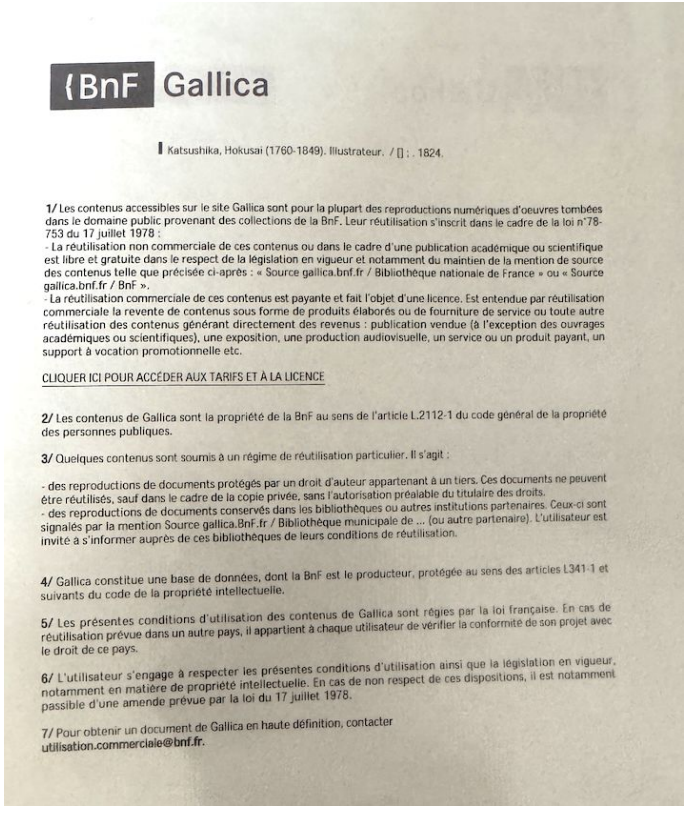


sixpence half-penny

Lewis Carroll would draw round the sixpence on a piece of paper, and then cut out the circular hole so that it was exactly the size of the sixpenny coin. He would then pose the question: "Can you put the ha'penny through it?"

Seems impossible, but there is a way. How does the ha'penny go through the smaller hole?

# 1824 Textile Patterns by Japanese Artist Hokusai



{BnF Gallica

Katsushika, Hokusai (1760-1849). Illustrateur. / [] : . 1824.

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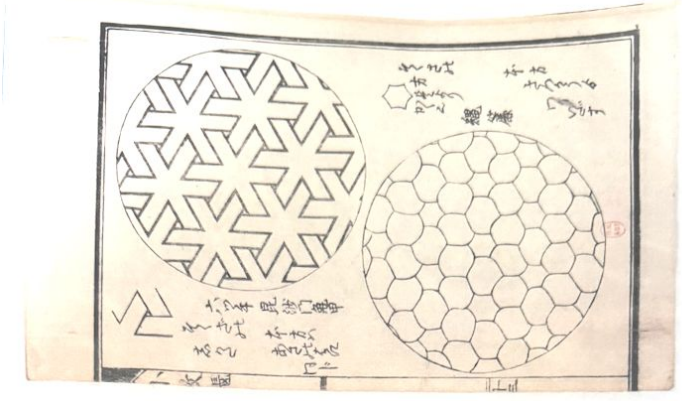
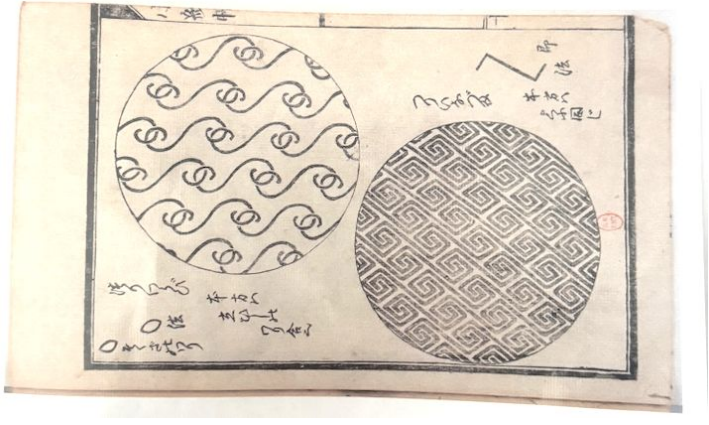
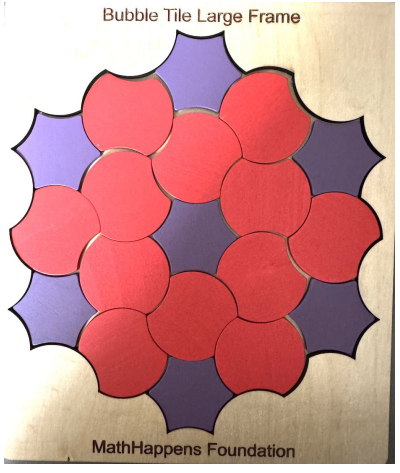
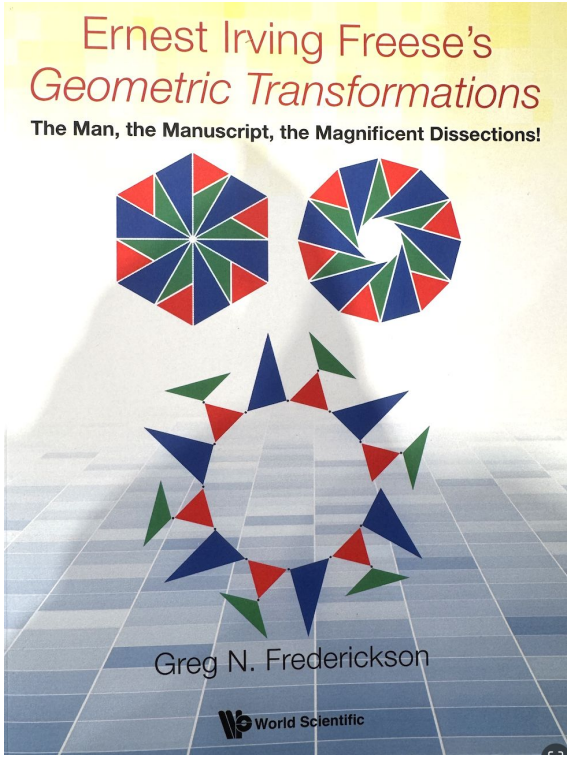
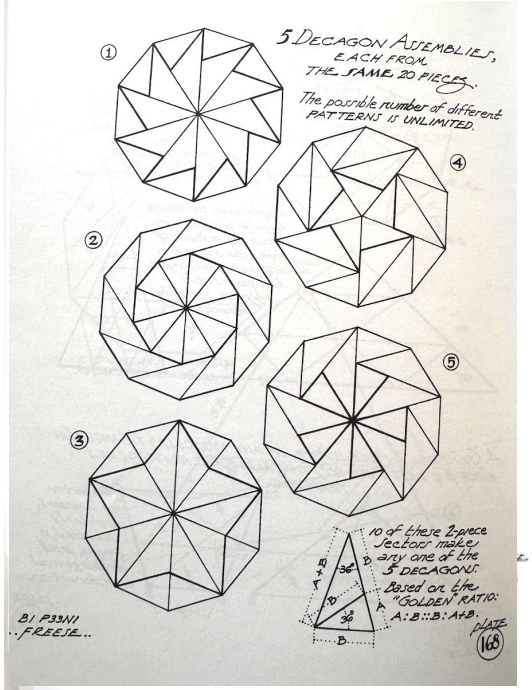


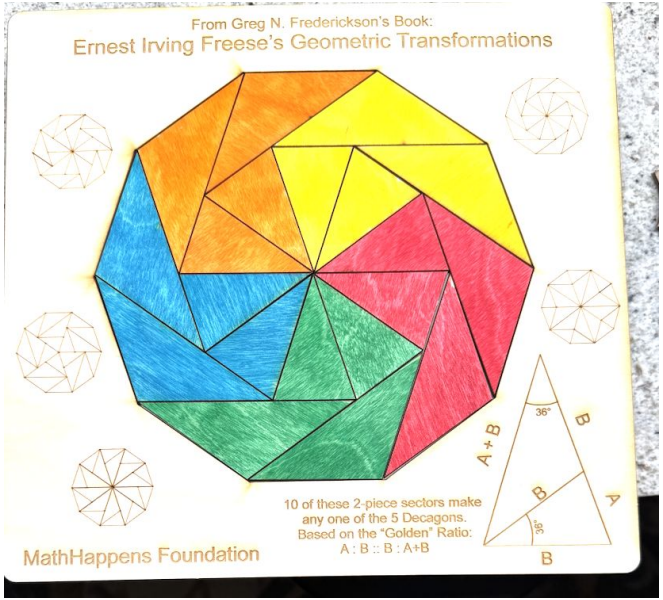


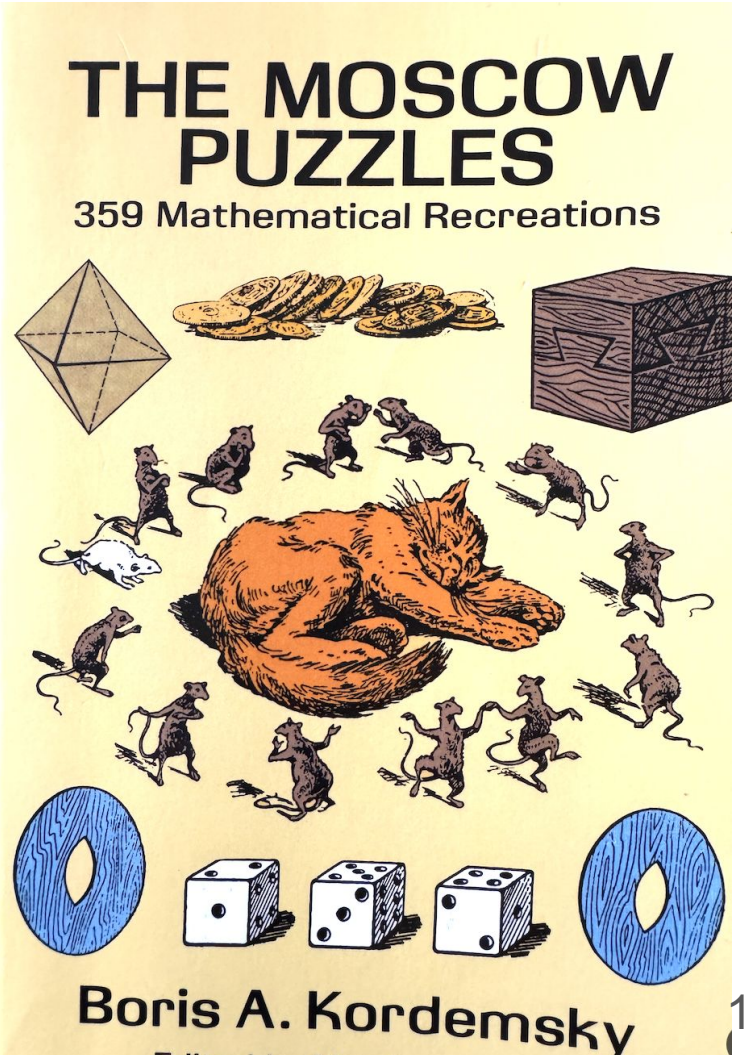



# Lost Manuscripts with 200 Hand drawn Plates. (1950's)





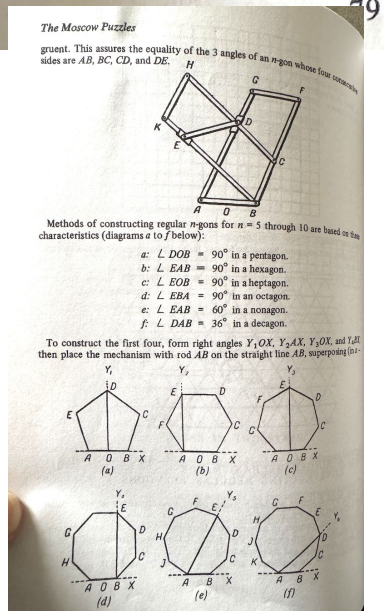

1956

## 196. A HINGED MECHANISM FOR CONSTRUCTING REGULAR POLYGONS

You can build a simple mechanism with which you can construct any regular $n$-sided polygon for $n = 5$ through 10.

The mechanism consists of movable rods forming two congruent parallelograms $ABFG$ and $BCHK$ (first diagram). Rod $DE$ is fastened to sliders $D$ and $E$ which move freely along $AG$ and $BK$ respectively. $AB = BC = CD = DE$. When $DE$ moves the parallelograms are unaffected, and trapezoids $ABCD$ and $BCDE$ remain con-

79

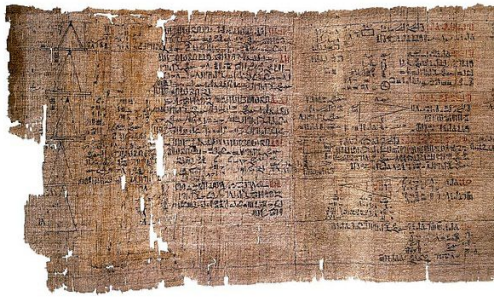


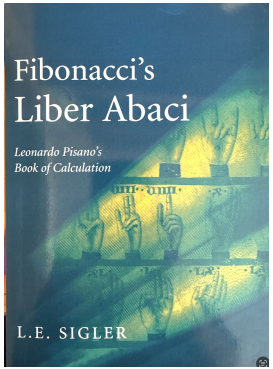

# Look in Books!

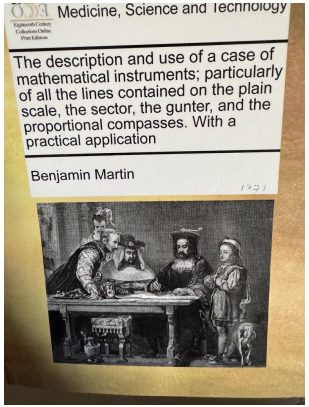
Rhind Papyrus 1550 BC

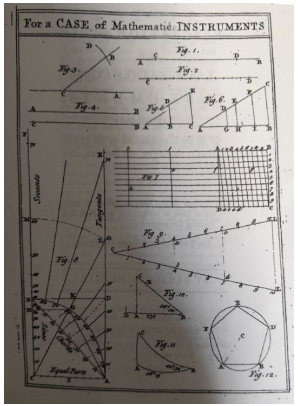
Liber Aci  1202

Mathematical Instruments 1771




Get carried away!
Math Happens
Bubble Tiles
Which One Doesn't Belong?
How Many?
Curve Stitching
MACHO NO MACHISMO

# Thank you!

Math Happens

Lauren Siegel
MathHappens Foundation
www.mathhappens.org
lsiegel@mathhappens.org
Austin, TX

MathCommunities.org

Activity Sheet SVG

Activity Sheet PDF