NUESTRAS CASAS SON MUSEOS: GEOMETRÍA Y DISEÑO

CLAUDI ALSINA
UPC

CLAUDI ALSINA
PRESENTA

BASADA EN UNA IDEA DE :

CLAUDI ALSINA

GUIÓN:

CLAUDI ALSINA

EFECTOS ESPECIALES :

CLAUDI ALSINA

PUESTA EN ESCENA :

CLAUDI ALSINA

DIRECCIÓN:

CLAUDI ALSINA

ESTA CONFERENCIA SE BASA EN OBJETOS REALES

ELOGIO DE LAS COSAS DE CASA

LA NATURALEZA ES UN REFERENTE

LA NATURALEZA ES DE GRAN BELLEZA

EN LA NATURALEZA HAY CAFÉ..PERO NO HAY CAFETERAS

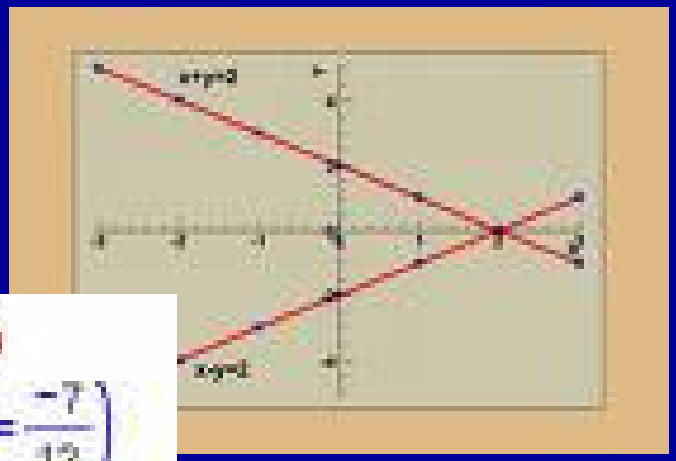
EN MATEMÁTICAS EMPEZAMOS LA CASA POR EL TEJADO

$$\nabla \cdot \mathbf{E} = 4\pi\rho$$

$$\nabla \cdot \mathbf{B} = 0$$

$$\nabla \times \mathbf{E} + \frac{\partial \mathbf{B}}{\partial t} = 0$$

$$\nabla \times \mathbf{B} - \frac{\partial \mathbf{E}}{\partial t} = 4\pi\mathbf{j}$$



Equació determinada

$$\text{resol}\left(\frac{3x-5}{4} - \frac{x-2}{3} = \frac{-7}{12}\right)$$

Equació indeterminada

$$\text{resol}\left(\frac{3x-5}{4} - \frac{x-2}{3} = \frac{5x-7}{12}\right)$$

Equació incompatible

$$\text{resol}\left(\frac{3x-5}{4} - \frac{x-2}{3} = \frac{5x}{12} - 7\right)$$

LA MATEMÁTICA HA DE PARTIR DE LA VIDA COTIDIANA Y LUEGO ELEVARSE

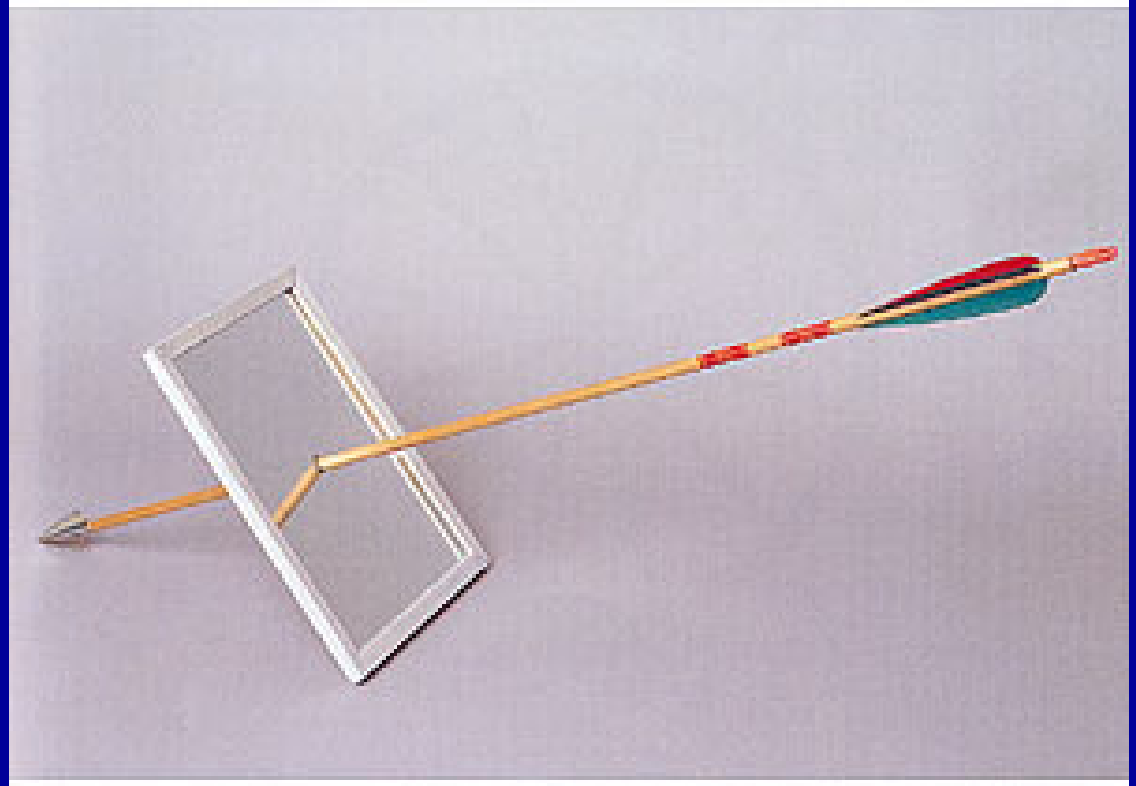
LAS COSAS DE CASA SON GRATIS Y ESTAN CON NOSOTROS

- **“MY PEOPLE, NOW IT IS TIME FOR US ALL TO SHAKE HANDS WITH THE RAIN.**

  IT’ S A NEIGHBOR, LIVES HERE ALL WINTER”

  W.Stafford

HAY MUCHAS COSAS ESTÚPIDAS



PERO TENEMOS COSAS MUY INTERESANTES

GRATAVINUM
2π
2004
PRIORAT
Denominació d'origen qualificada
EMBOTELLAT A TORROJA DEL PRIORAT
Nº Embotellador 29.074 CAT - L-22
43737 GRATALLOPS - PRIORAT - SPAIN
750ml
2π
DOS PI
SALSA DE 2 PIMIENTOS
SIN SAL NI ADITIVOS
200 gr

MATERIALES

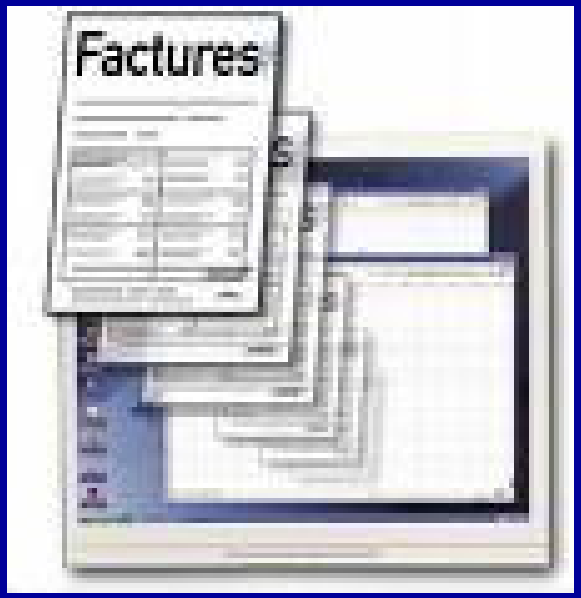
- ROPA
- MUEBLES
- INSTRUMENTOS
- DECORACIÓN
- CAJAS
- EDIFICIOS
- FACTURAS
- .....

MATERIALES PARA IDENTIFICAR FORMAS GEOMÉTRICAS

MATERIALES PARA IDENTIFICAR TRANSFORMACIONES GEOMÉTRICAS

MATERIALES PARA MEDIR

MATERIALES PARA CALCULAR

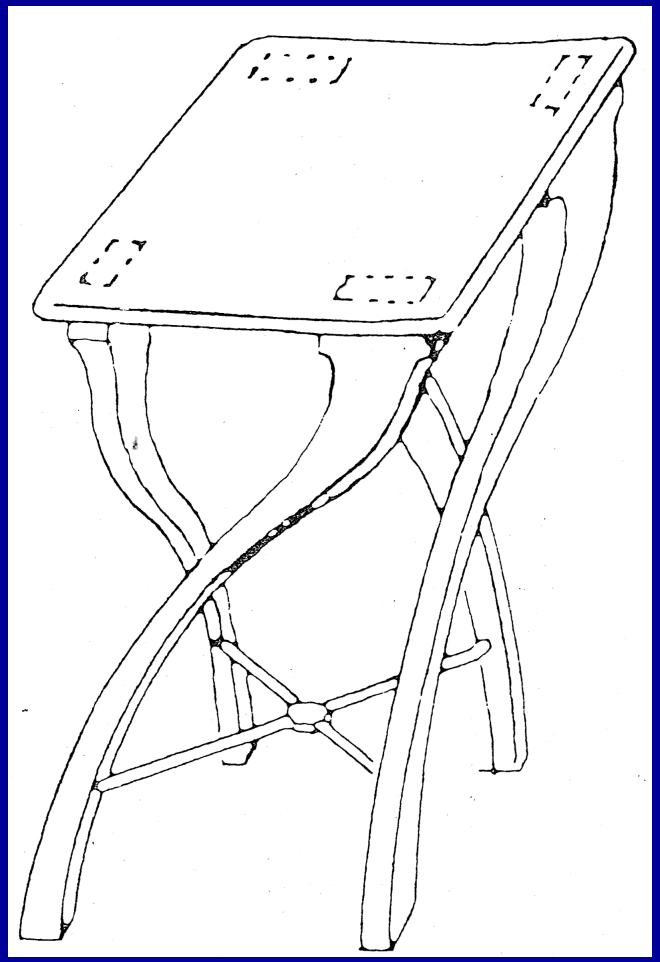


MATERIALES PARA USAR COMO RECURSOS MANIPULATIVOS

TRANFORMACIONES GEOMÉTRICAS

TRASLACIONES

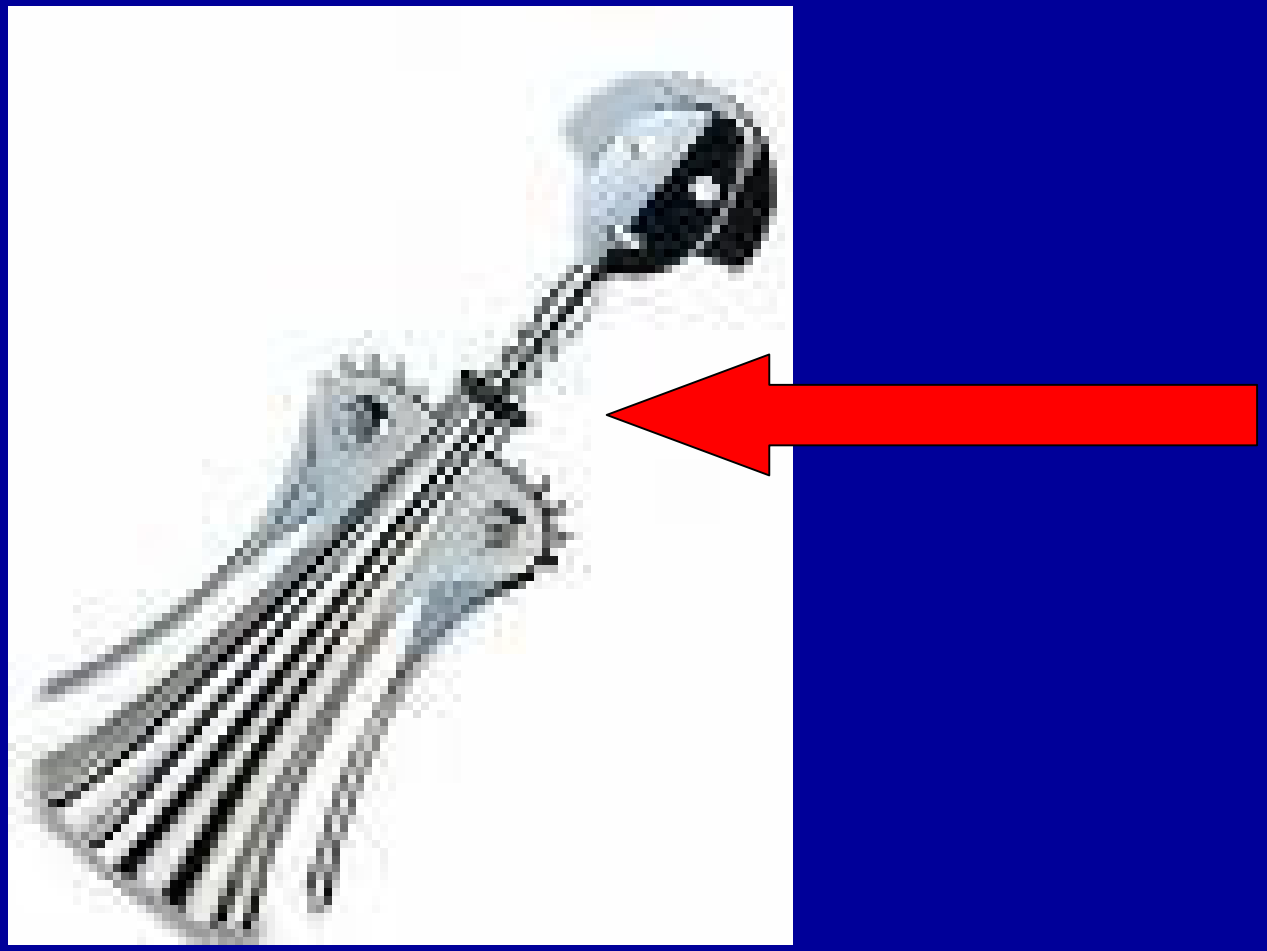
ROTACIONES



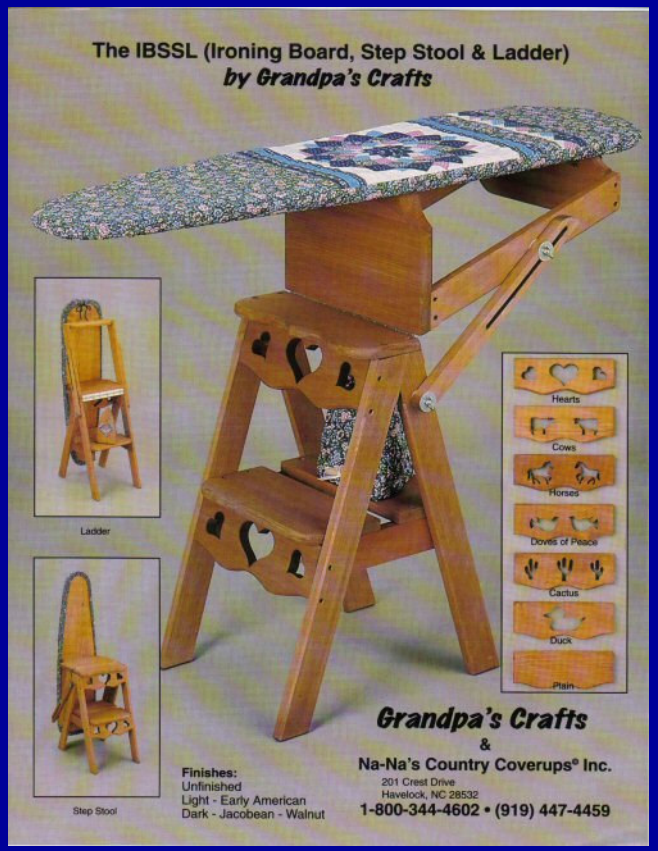
GAUDÍ

SIMETRIAS

TRANFORMACIONES HELICOIDALES



COMBINANDO MOVIMIENTOS


The IBSSL (Ironing Board, Step Stool & Ladder)
by Grandpa's Crafts
Ladder
Step Stool
Hearts
Cows
Horses
Doves of Peace
Cactus
Duck
Plain
Finishes:
Unfinished
Light - Early American
Dark - Jacobean - Walnut
Grandpa's Crafts
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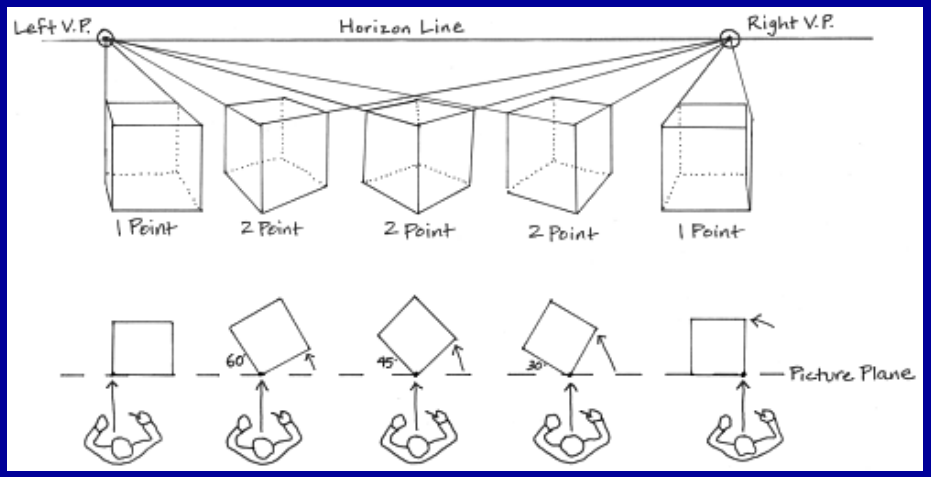
SEMEJANZAS

TRANSFORMACIONES AFINES

PERSPECTIVAS



DISECCIONES

TRANSFORMANDO CODIGOS

FORMAS GEOMÉTRICAS

POLIGONOS

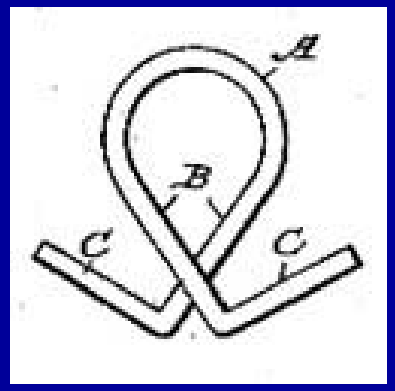
CÓNICAS

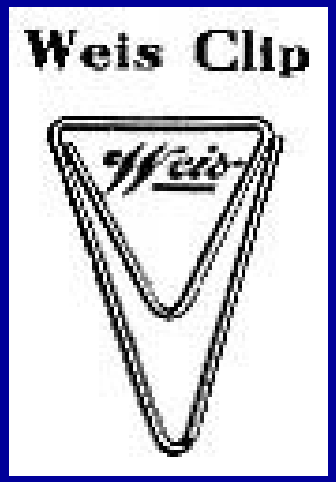
CATENARIAS

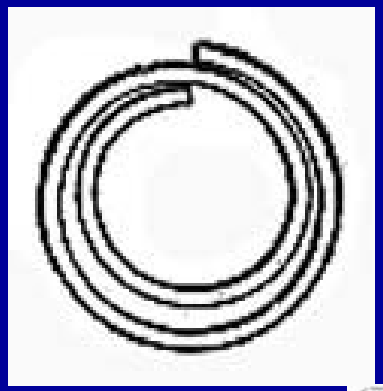
THONET

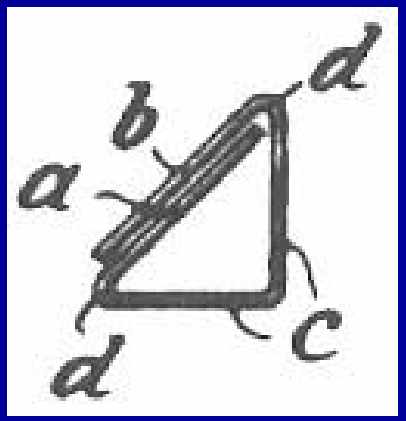
ESPIRALES

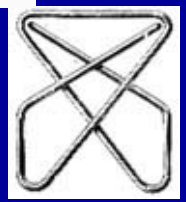
CLIPS











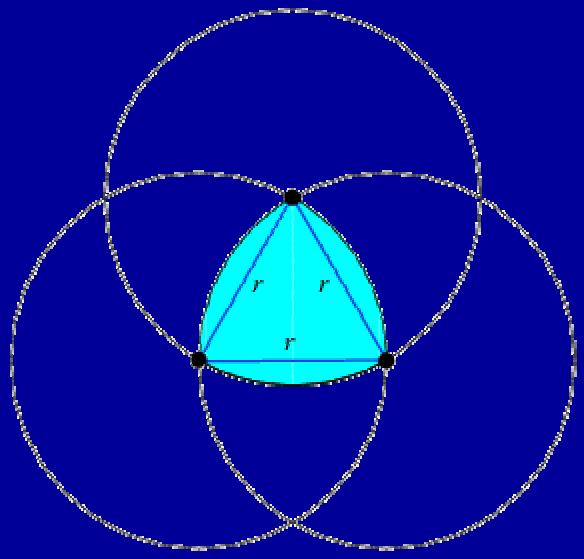
Corbis.com

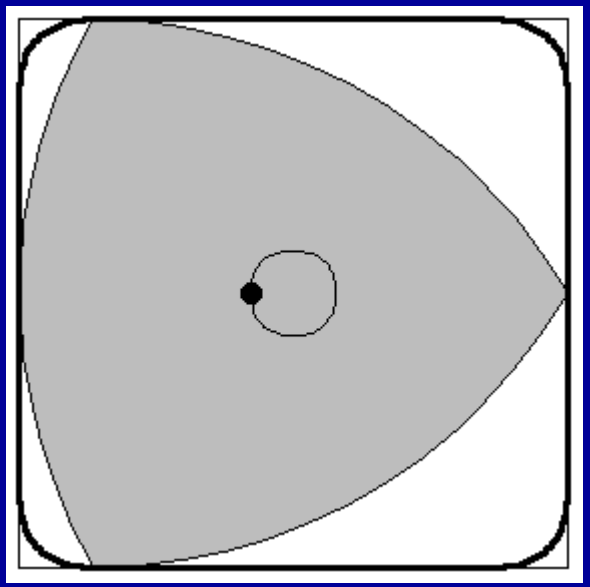
vergara
CALLAS
EMI
DIEU VOUS GARDE
GOD GUARD YOU
V.E. NESSLER
№ 1315
Brevetée
PATENT S.G.D.G. PATENTED
EHRLICH

HÉLICES

SINUSOIDES

TRIÁNGULO DE REULEAUX

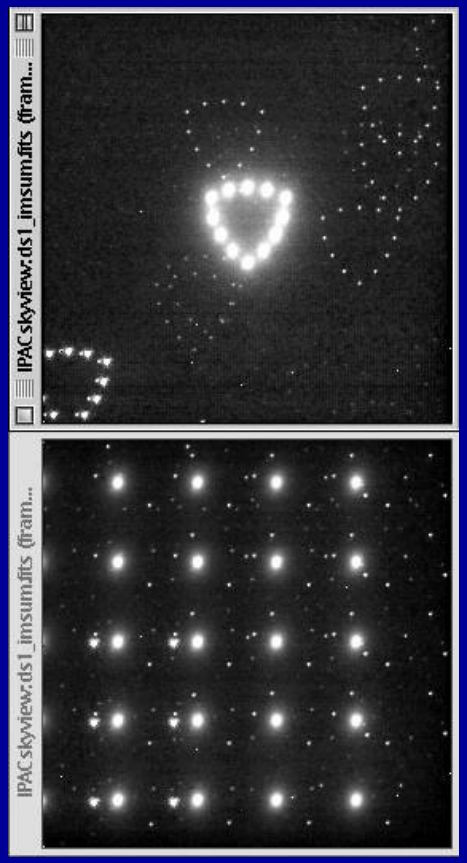


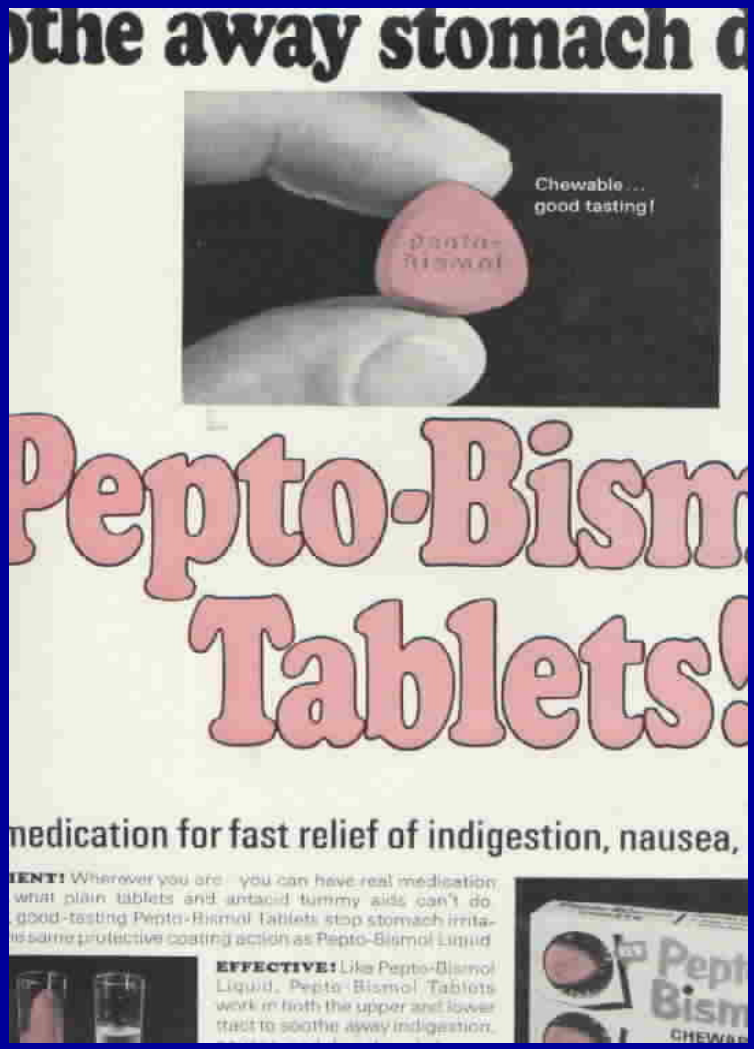


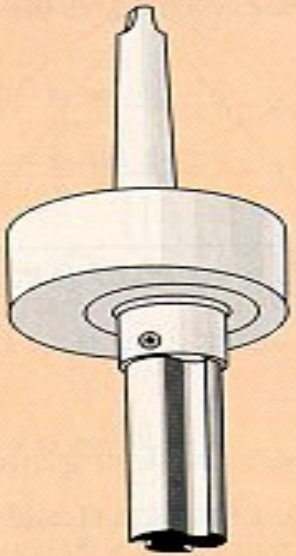
TWENTY PENCE
19 98
20

FIFTY PENCE
50

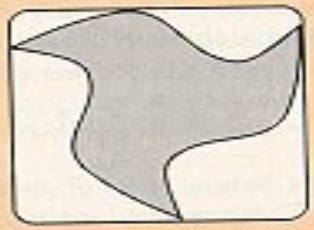
PEPTO TABLETS







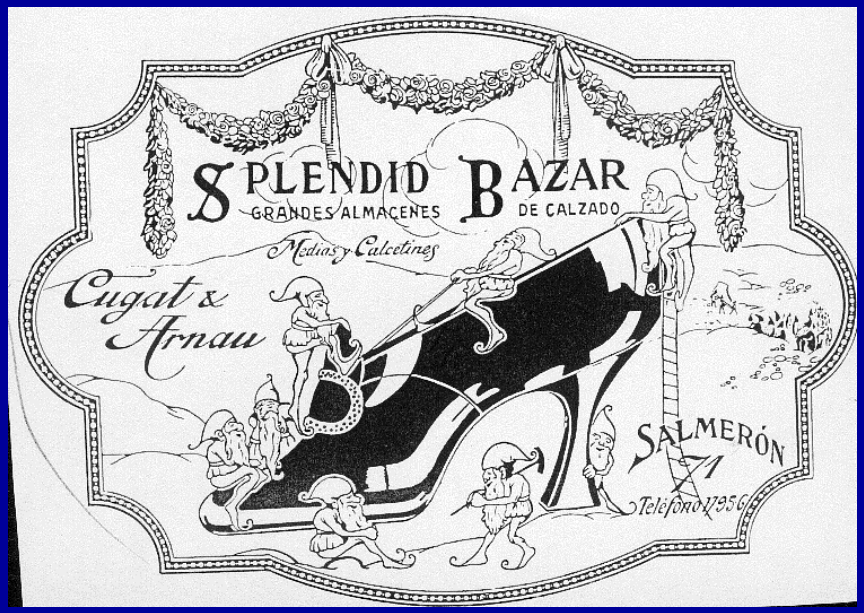
Watts chuck and drill



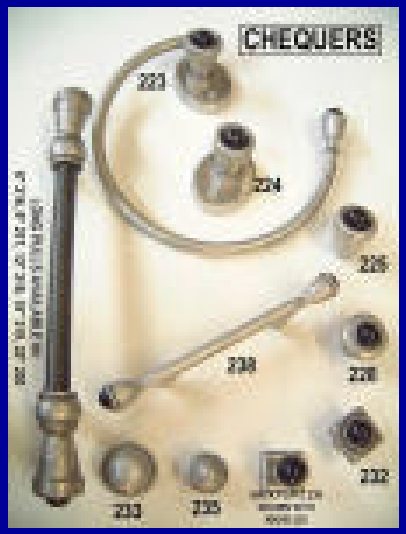
Cross section of drill in hole

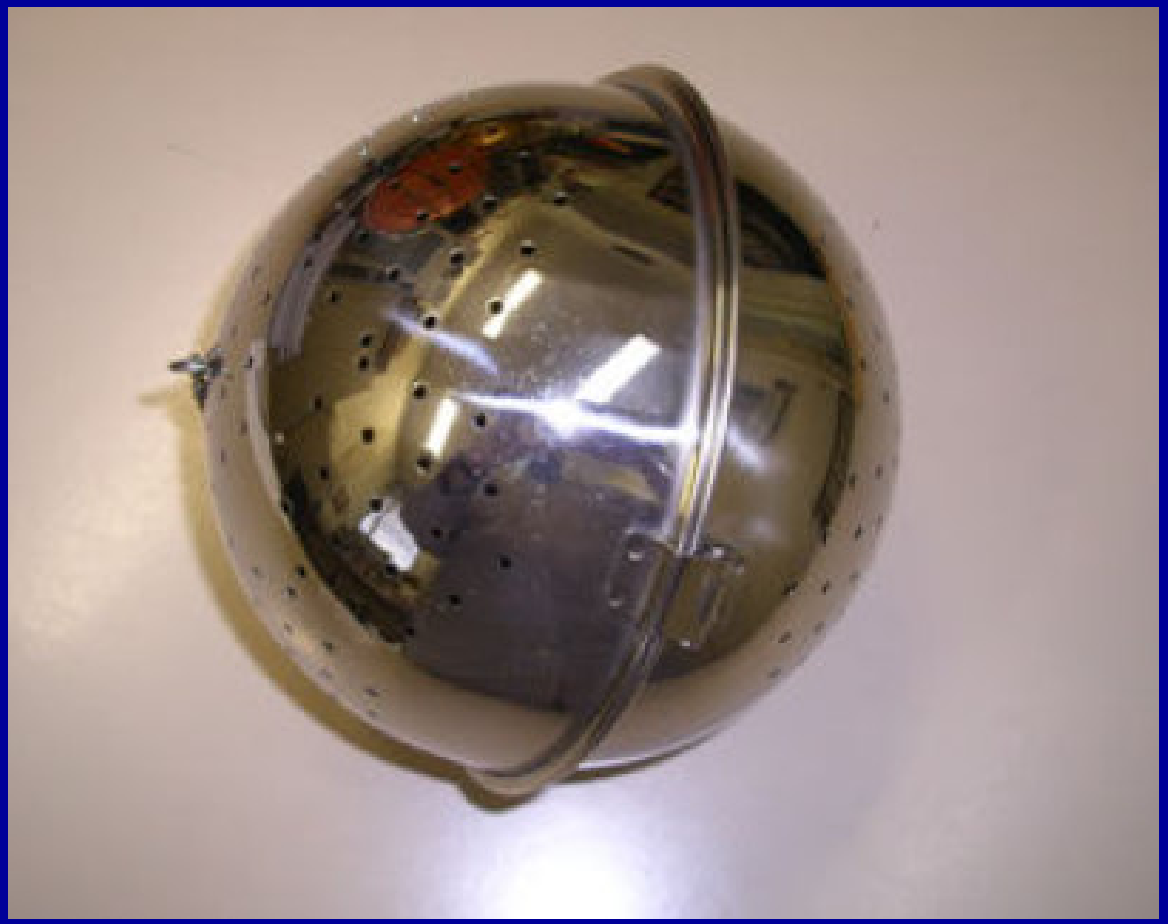
Fig. 8
Bit and chuck that drill square holes
(From Gardner [1963])

CURVAS


SPLENDID BAZAR
GRANDES ALMACENES
DE CALZADO
Medias y Calcetines
Cugat & Arnau
SALMERÓN
71
Teléfono 1956

ESFERAS



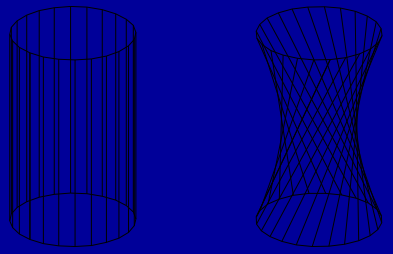


CILINDROS

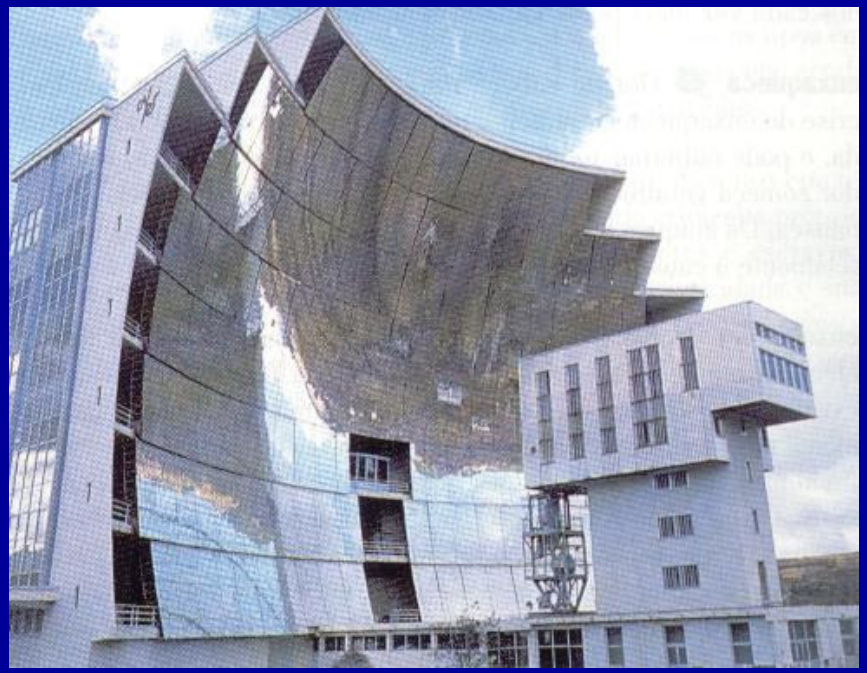
CONOS

PARABOLOIDE HIPERBÓLICO

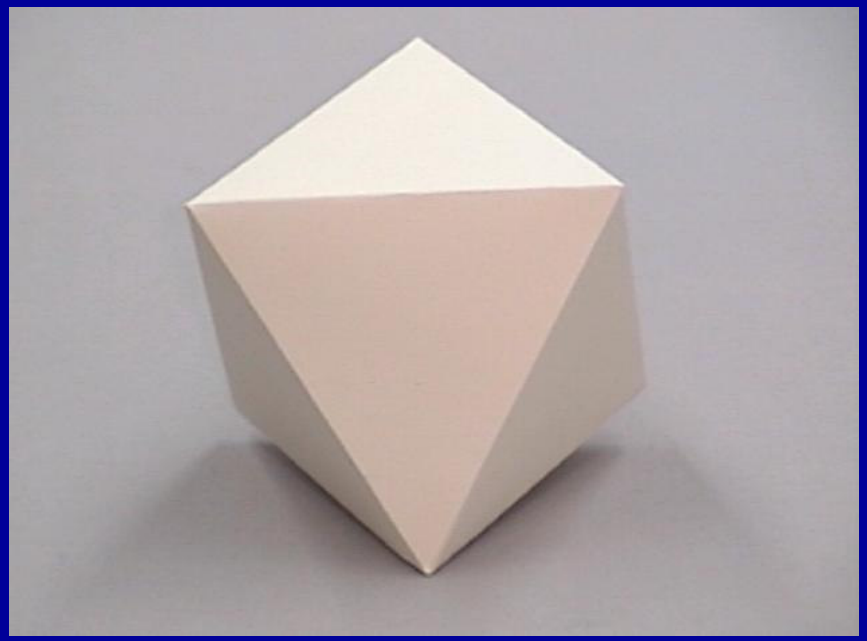
HIPERBOLOIDE DE 1HOJA

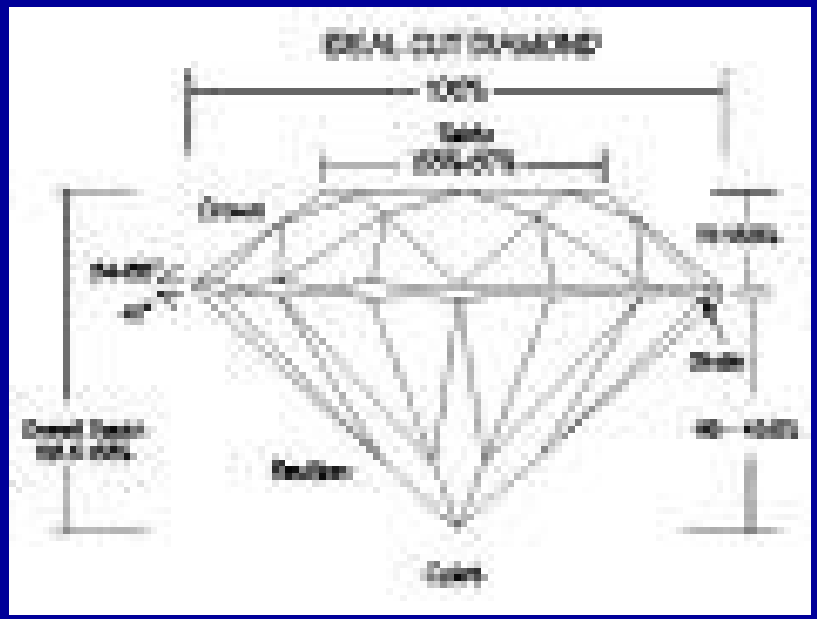


PARABOLOIDE ELÍPTICO

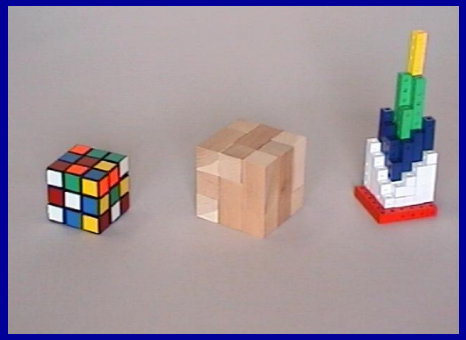


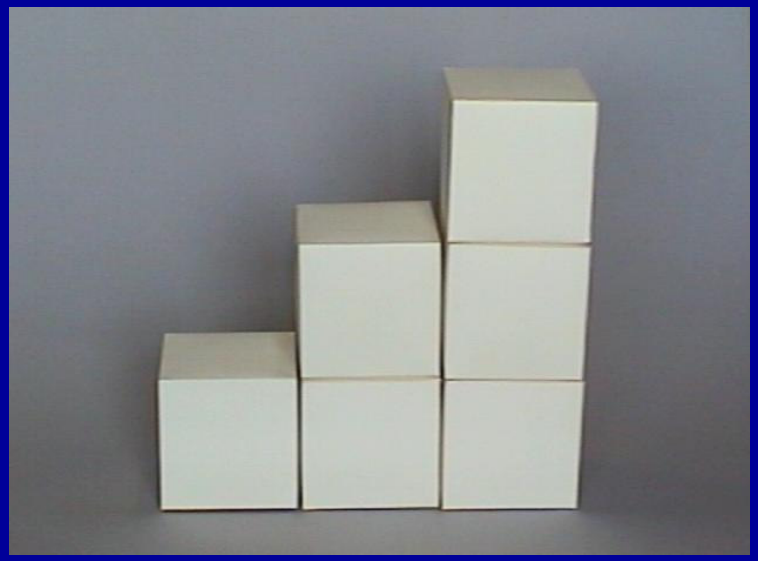
OCTAEDRO

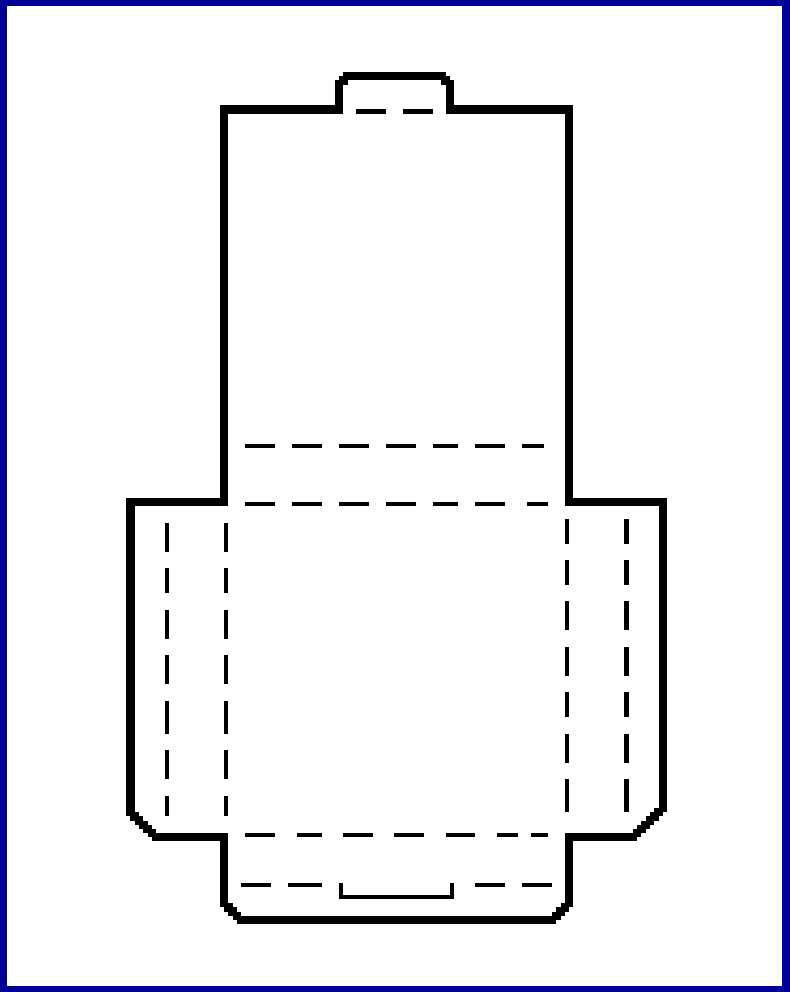


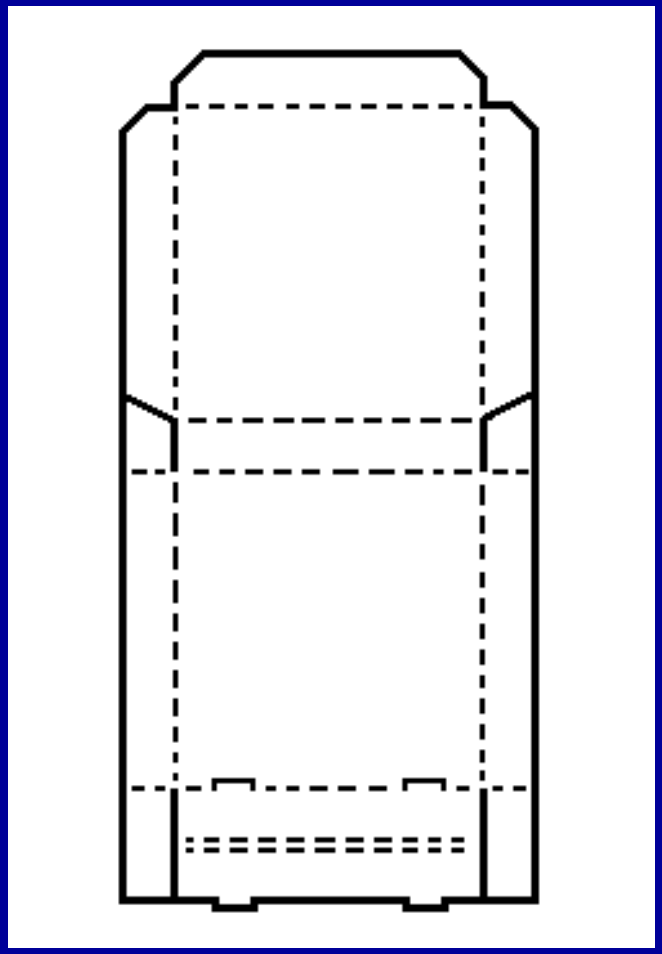


CUBOS

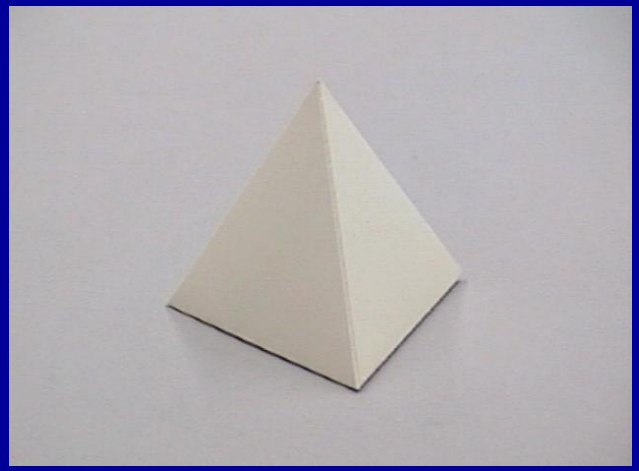






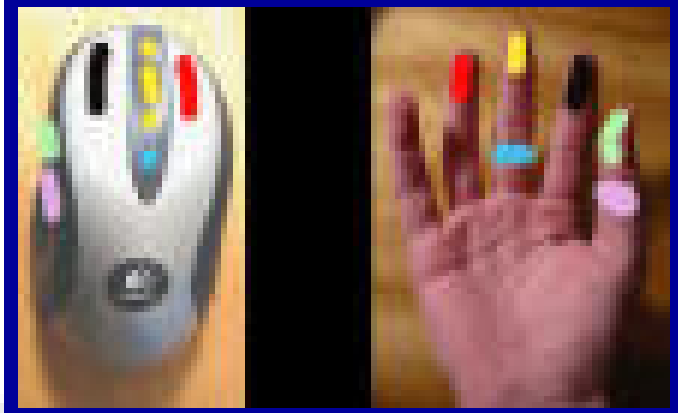


TETRAEDRO



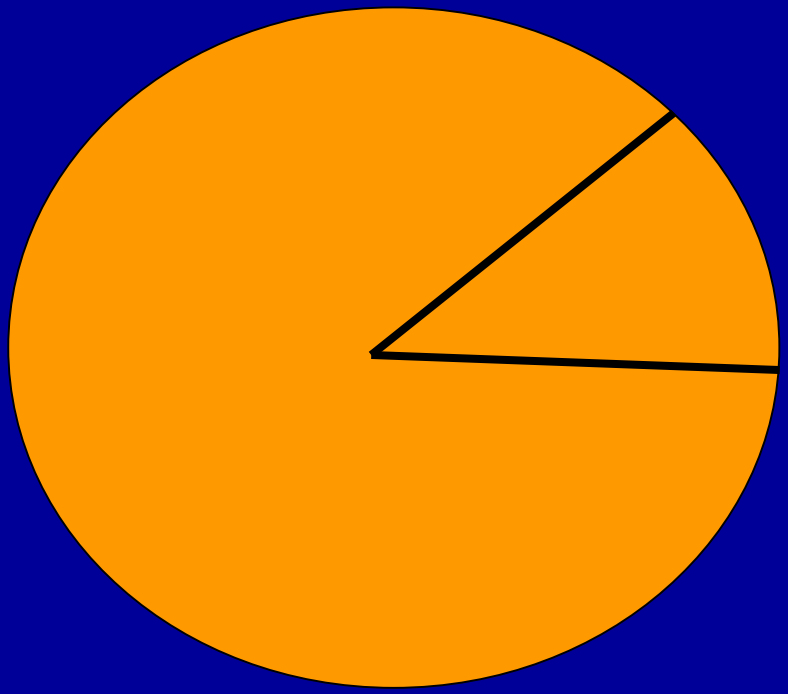
DODECAEDRO

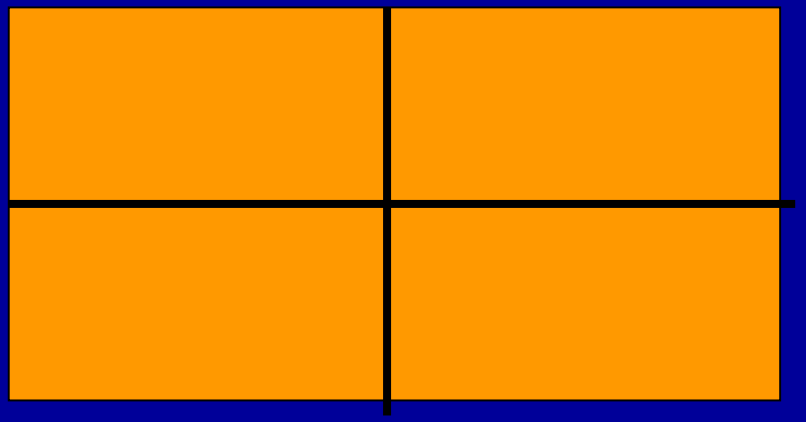
ERGONOMÍA



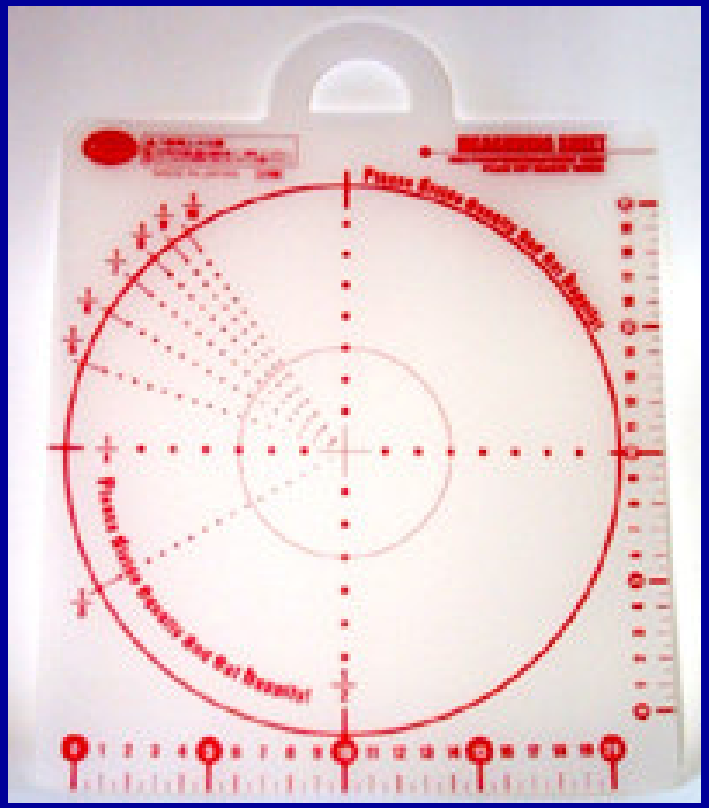
MAS PASTELES POR FAVOR

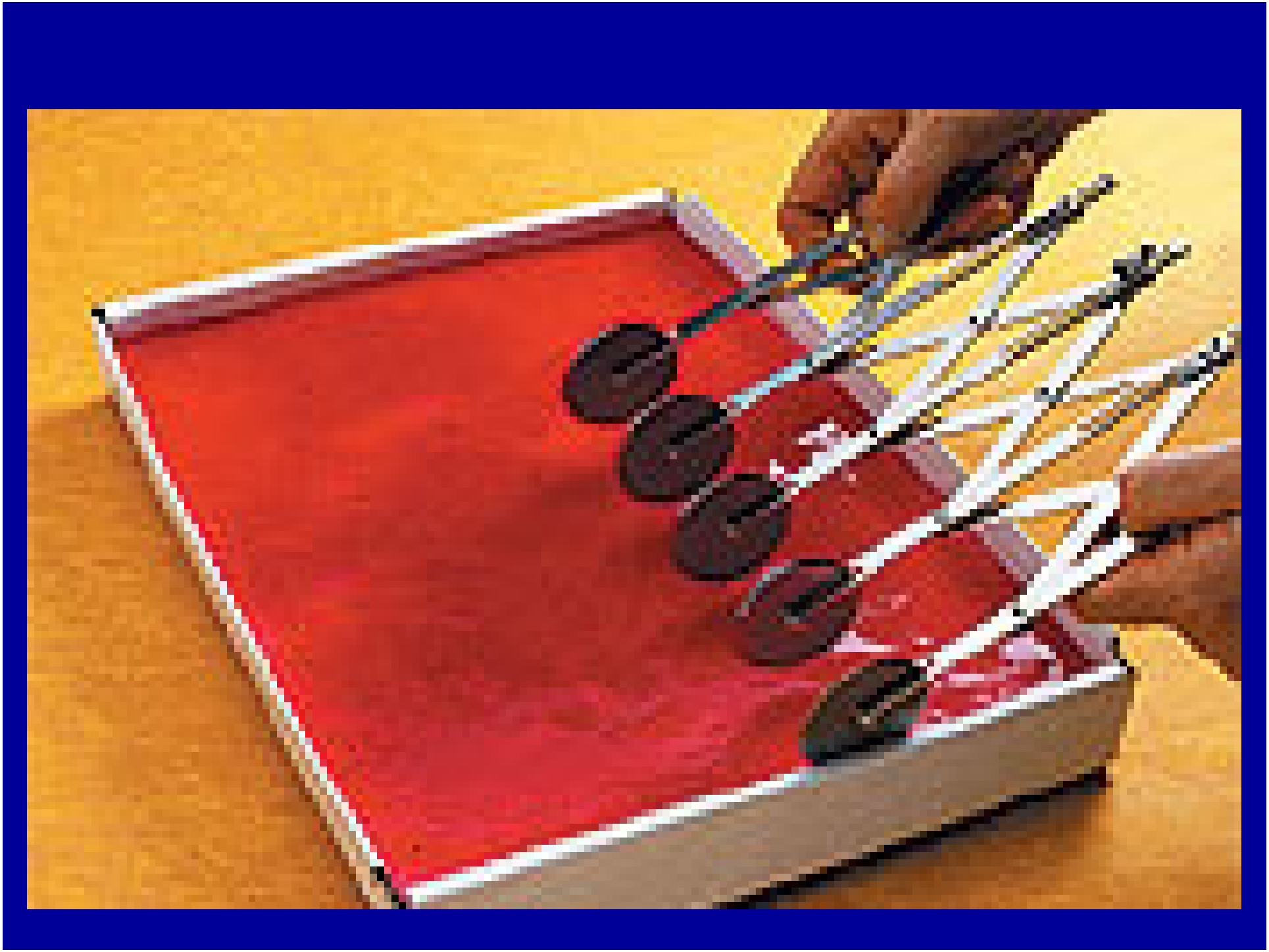
¿COMO REPARTIR UN PASTEL DE MANERA JUSTA?

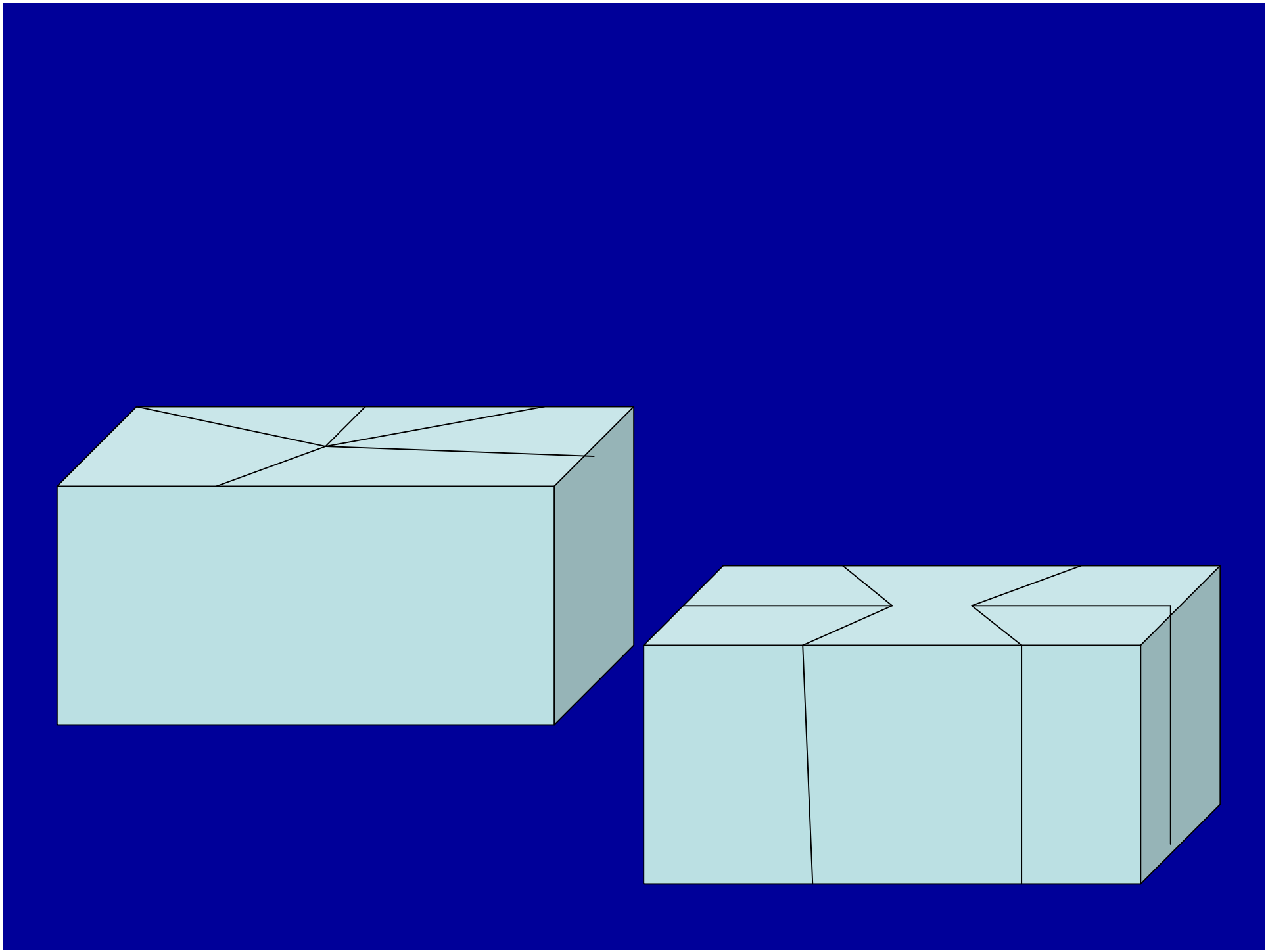




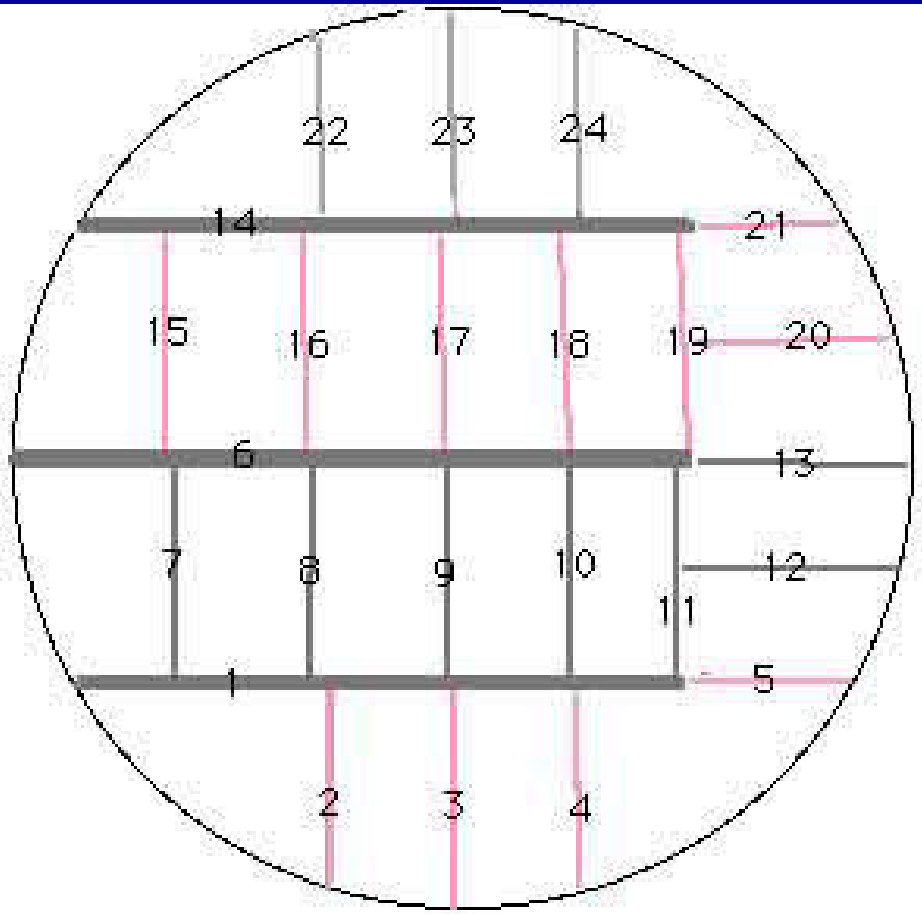
TU CORTAS,
YO ELIJO







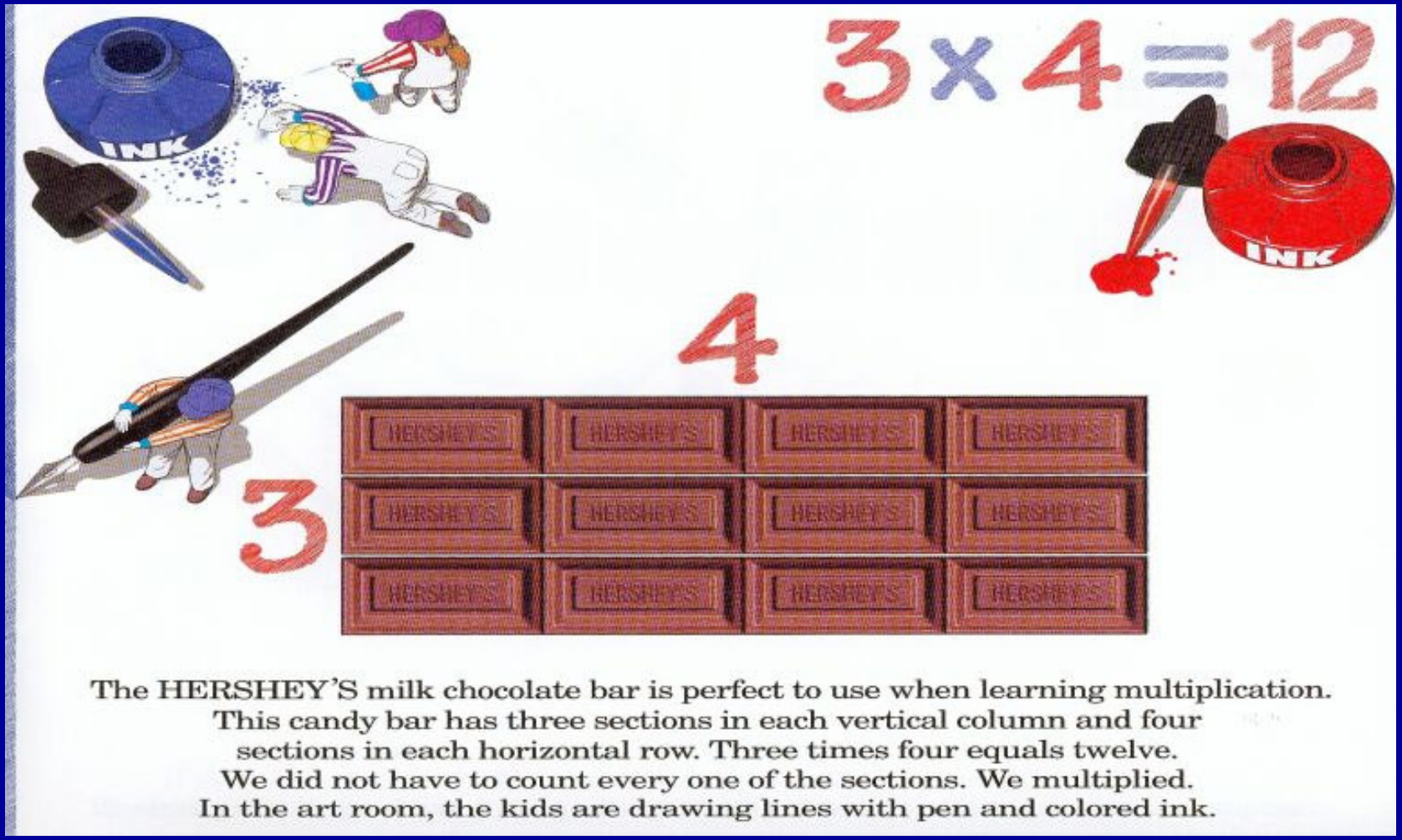
PASTEL REAL



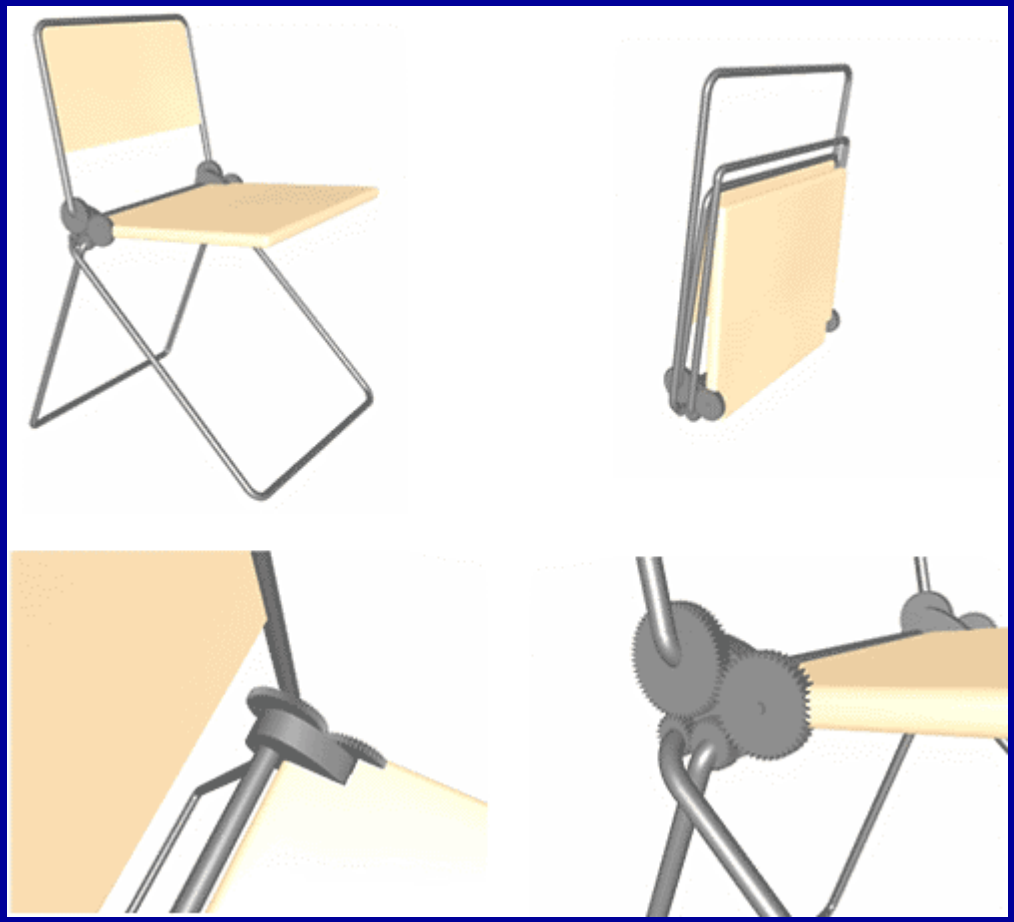
Example of how to cut a cake to prevent cake pieces from falling until you are ready for them. Note Cuts 1, 6, and 14 are not cake servings. You will get 22 servings here and that matches up with a 9 inch round cake tier. Other size tiers are cut using the same method 2" deep cuts and 1" wide cuts.

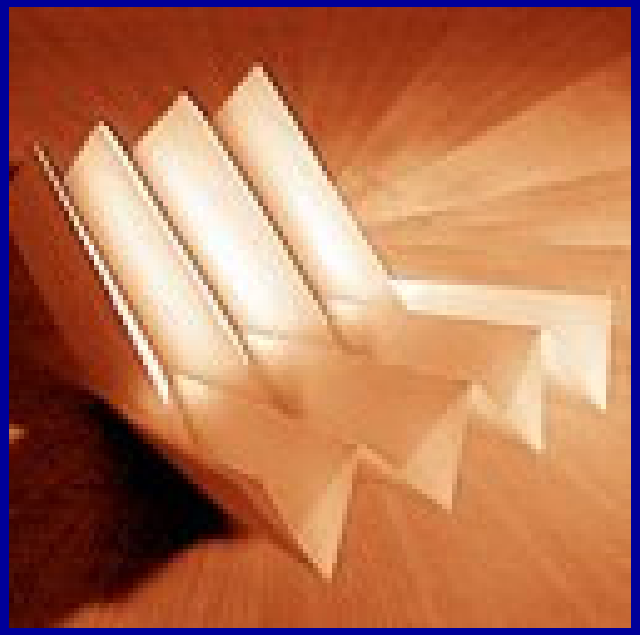
LA MATEMÁTICA RIGUROSA SE HACE CON LA MENTE LA MATEMÁTICA HERMOSA SE ENSEÑA CON EL CORAZÓN

JOSEP ESTALELLA



The HERSHEY'S milk chocolate bar is perfect to use when learning multiplication. This candy bar has three sections in each vertical column and four sections in each horizontal row. Three times four equals twelve. We did not have to count every one of the sections. We multiplied. In the art room, the kids are drawing lines with pen and colored ink.



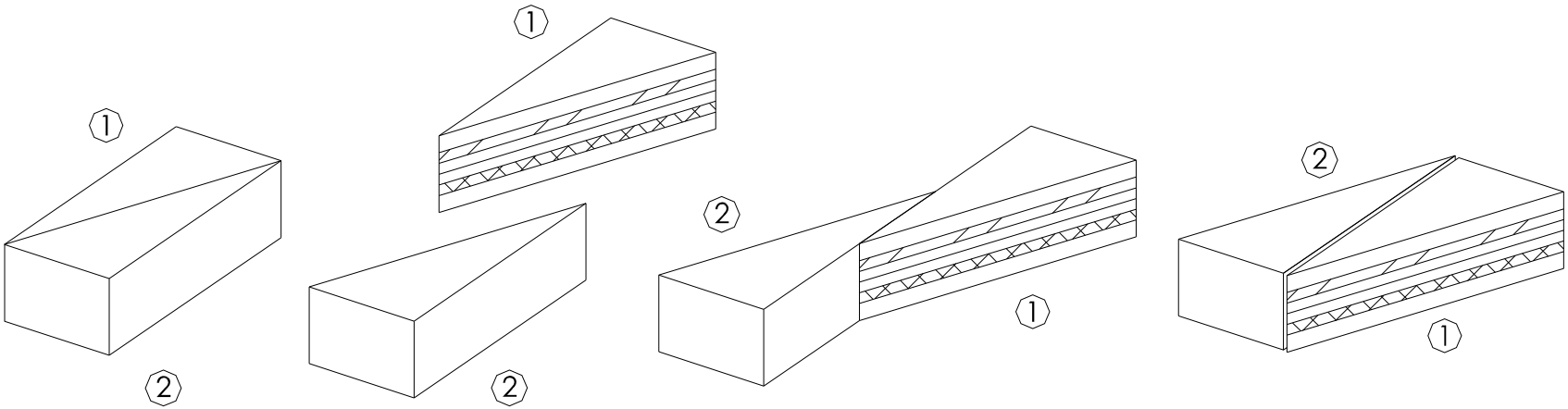


- **HANDS-ON MATERIALS**
- **EVERYDAY LIFE OBJECTS**

NCTM STANDARDS ....

... REPRESENTATION

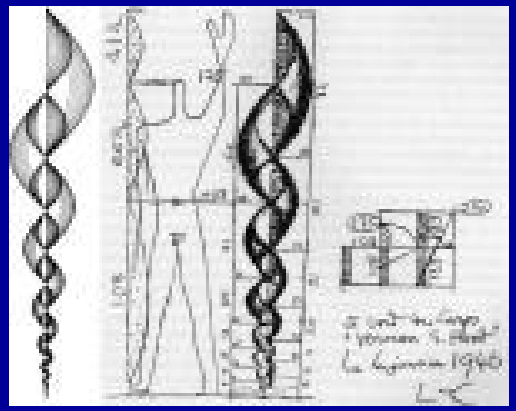
... CONNECTIONS

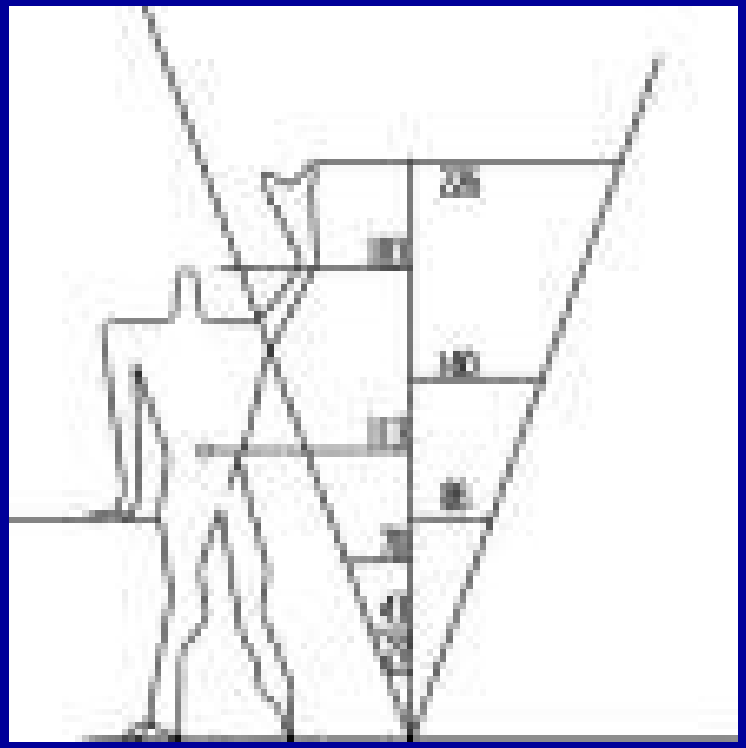

1
2
1
2
2
1
2
1

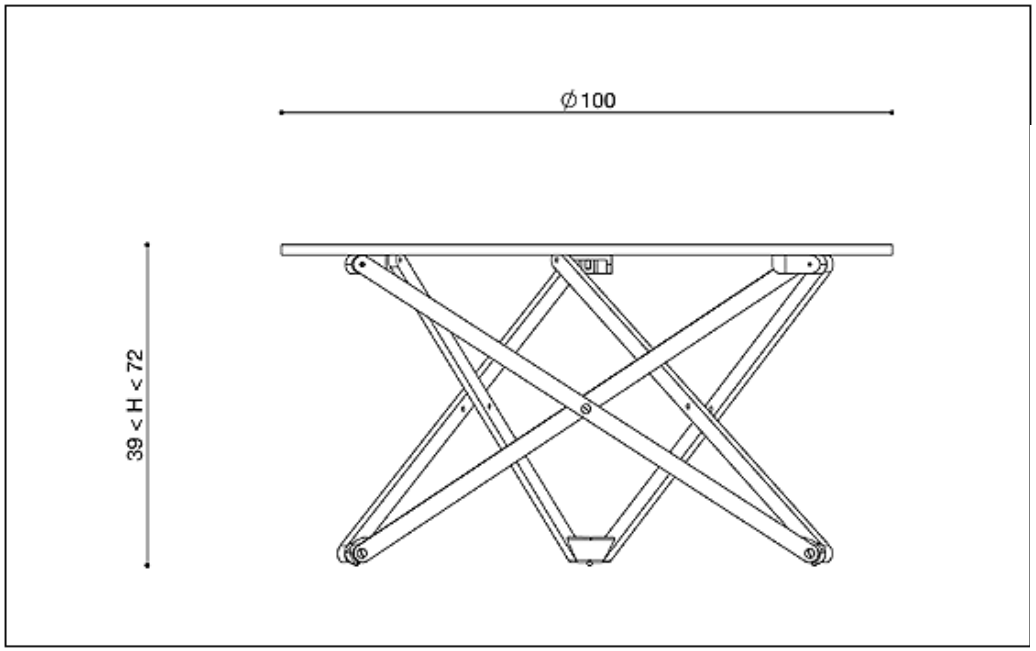
BECARI@S
¡QUE NO TE
EXPLOTEN!

- ELOGIO DE LAS COSAS DE CASA
- UNA CONVERSACIÓN DE JOSEP ESTALELLA
- TRANSFORMACIONES GEOMÉTRICAS
- FORMAS
- MAS PASTELES POR FAVOR

RA-378






∅100
39 < H < 72

TENSEGRIDAD

HELICOIDES