

Gimcana matemática

JOAN FOLGUERA FARRÉ

E-mail: jfolgue2@xtec.cat

MIEMBRO DEL MMACA (Museo
De **M**atemáticas de **C**atalunya)

CARRERA METRO CÚBICO



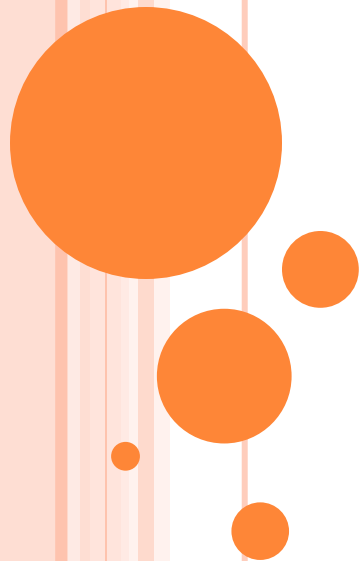
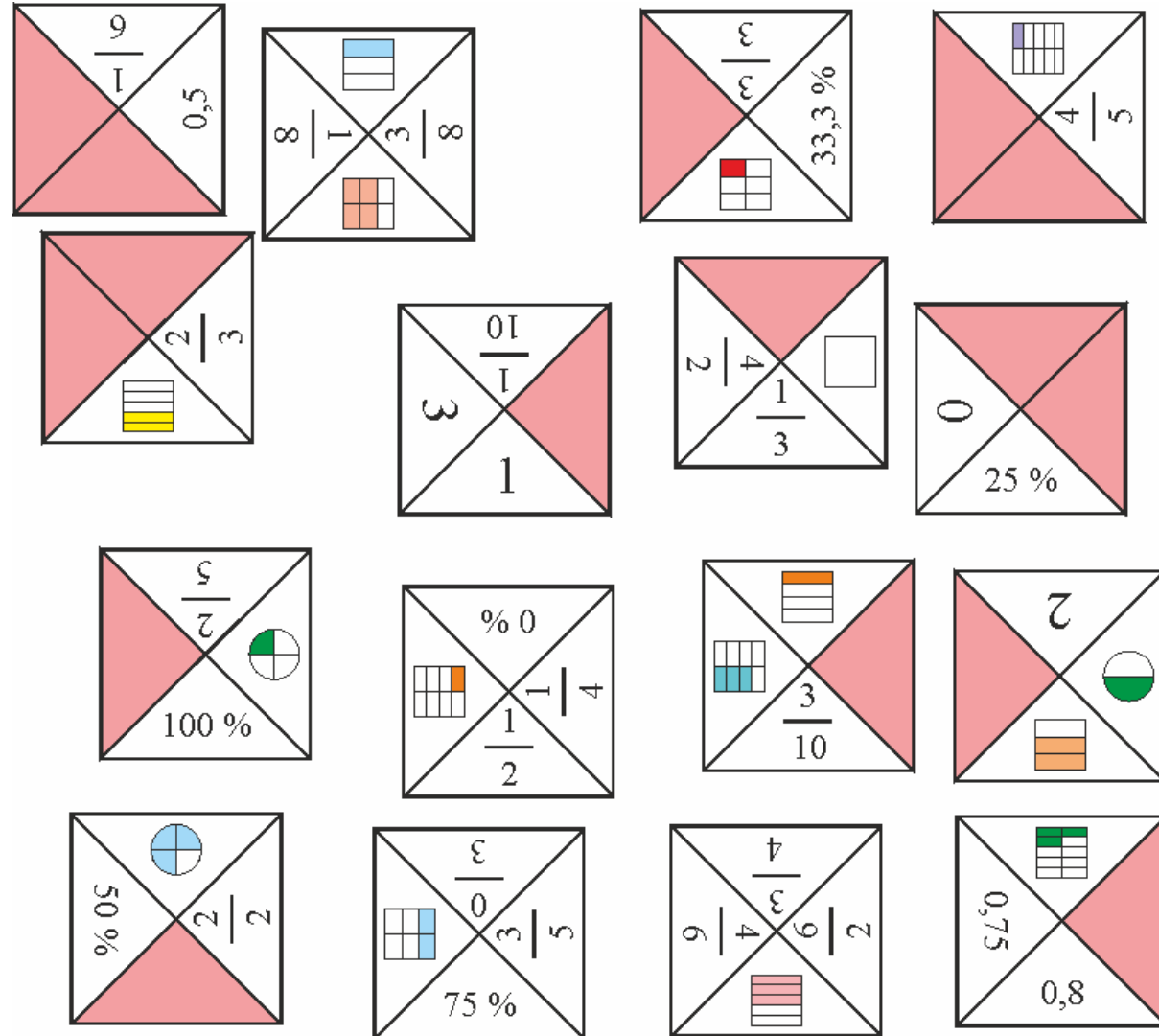
CARRERA METRO CÚBICO



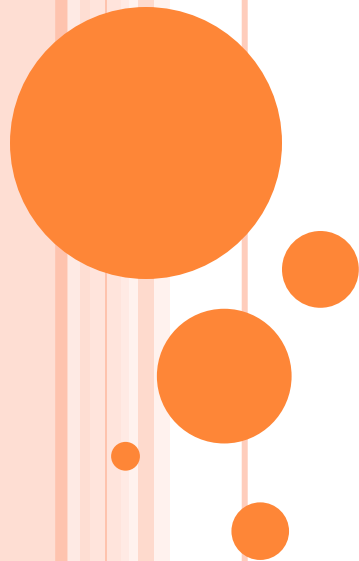
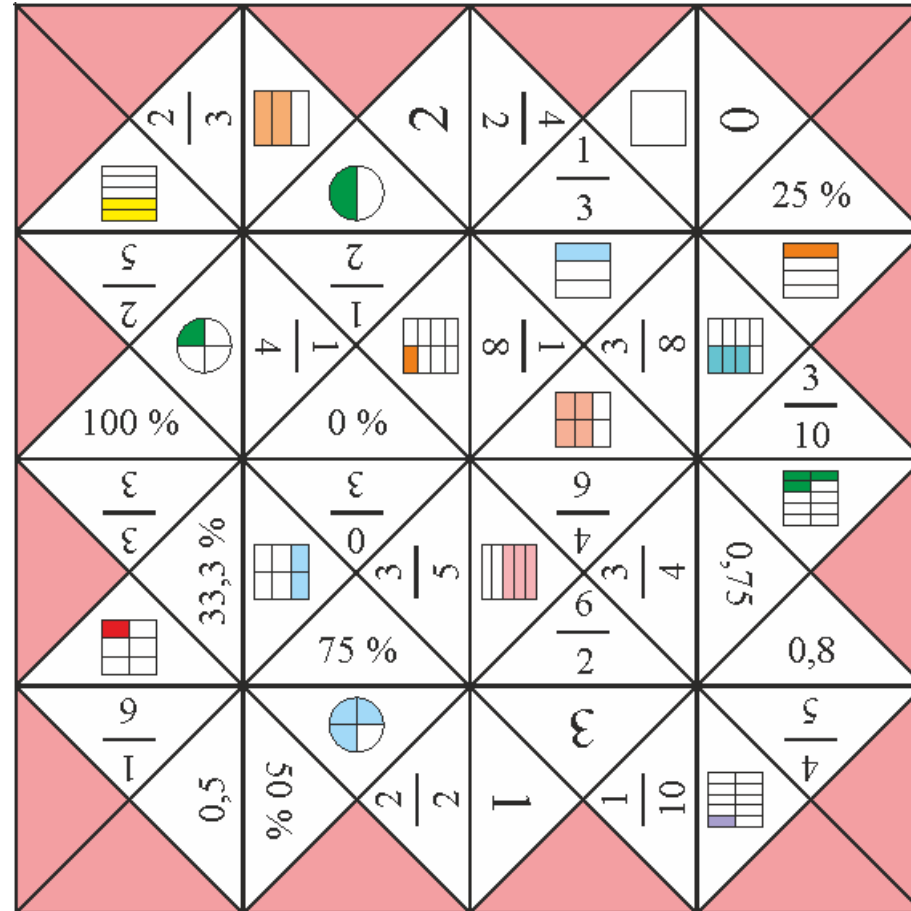
CARRERA METRO CÚBICO



PUZZLE DE FRACCIONES



PUZZLE DE FRACCIONES











White's
PACIFIC

EVER YOUNG
PULL & BOAT
ROWING

DC & S
SCHOOL

3

WATER PAPER A4
WATER PAPER A4
WATER PAPER A4
WATER PAPER A4

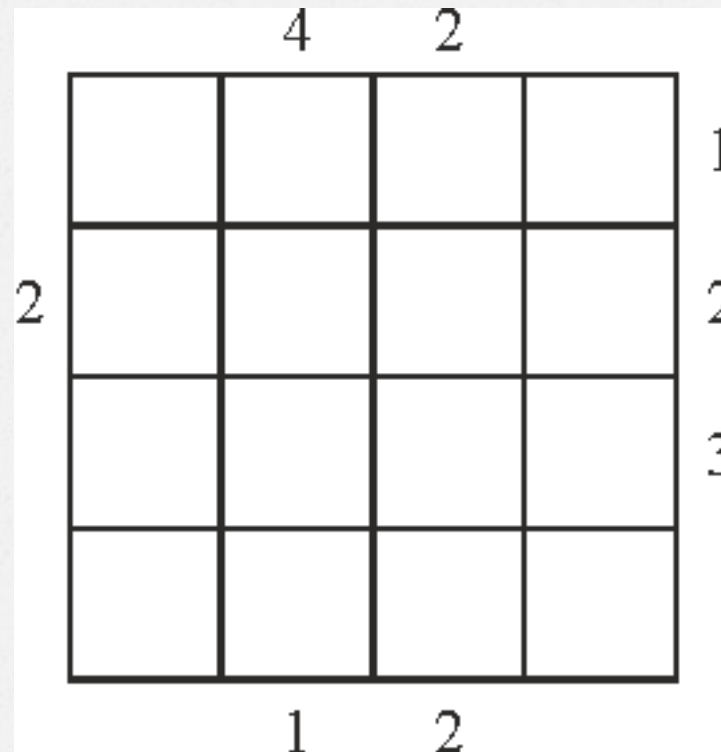
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NAVIGATOR
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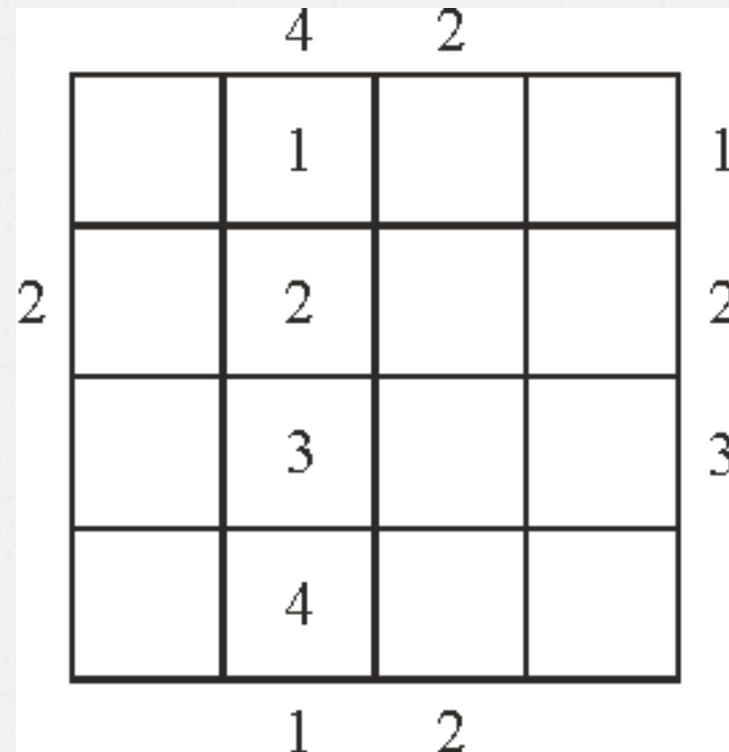
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WATER PAPER A4
WATER PAPER A4

WATER PAPER A4
WATER PAPER A4

Rascacielos



Rascacielos



Rascacielos

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	1		4	1
2	2			2
	3			3
	4			
	1	2		

Rascacielos

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	1		4	1
2	2	4		2
	3			3
	4			
		1	2	

Rascacielos

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		4			
		1	2		

Rascacielos

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		4			
		1	2		

Rascacielos

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		1	2		

Rascacielos

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Rascacielos

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Rascacielos

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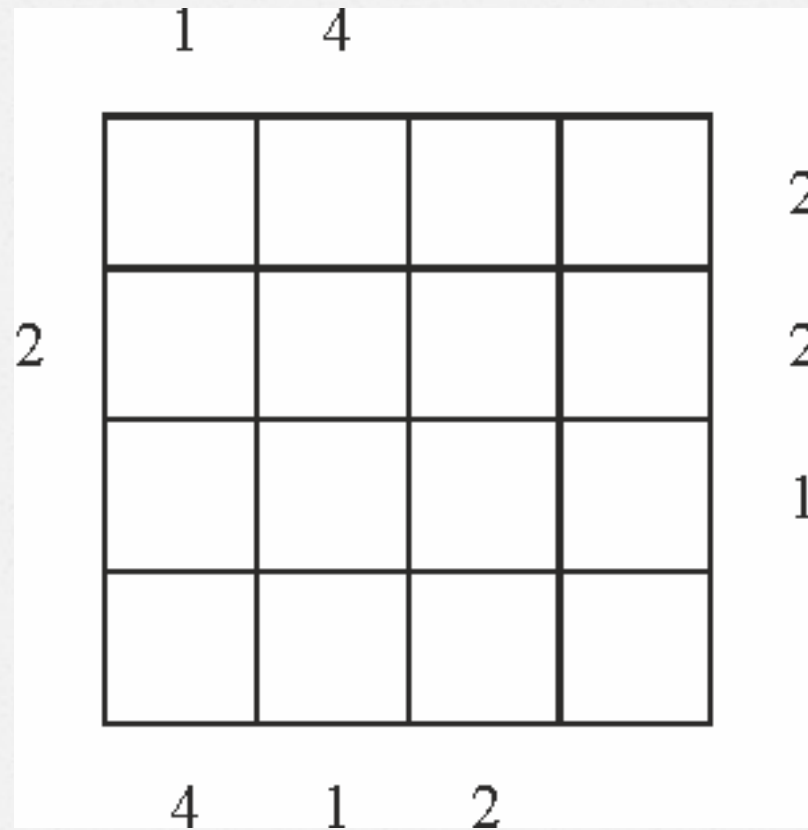
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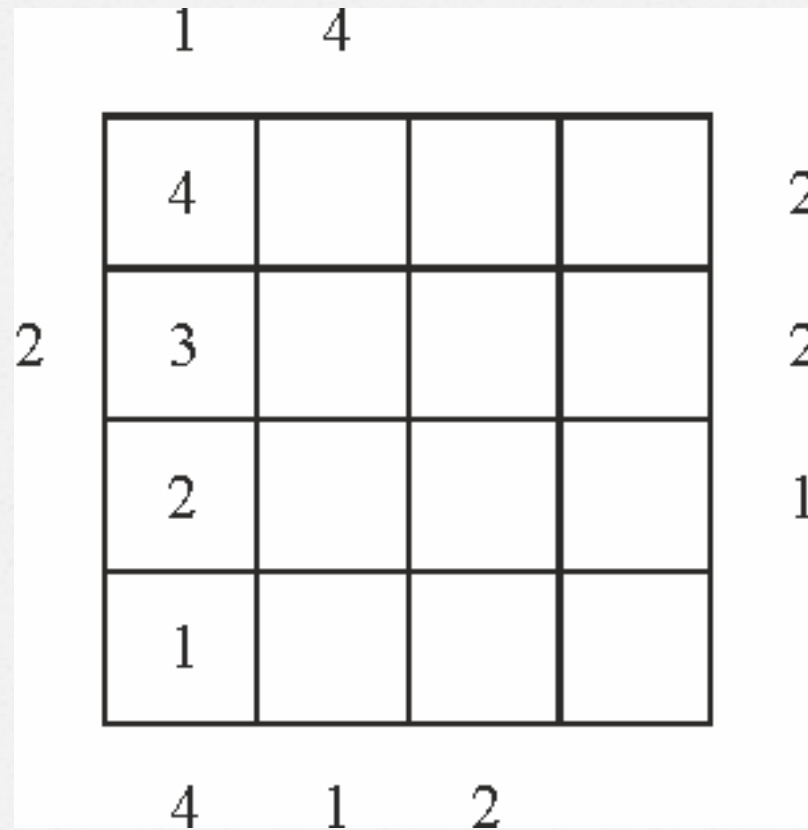
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		1	2		

Rascacielos



Rascacielos



Rascacielos

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	2	3			1
	1	4			
	4	1	2		

Rascacielos

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Rascacielos

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Rascacielos

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	4	1	2		

Rascacielos

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	2	3	1	4	1
	1	4	3	2	
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CRIPTOGRAFIA



CRIPTOGRAFIA

LAS CIENCIAS MATEMATICAS

EXHIBEN PARTICULARMENTE

ORDEN Y SIMETRIA

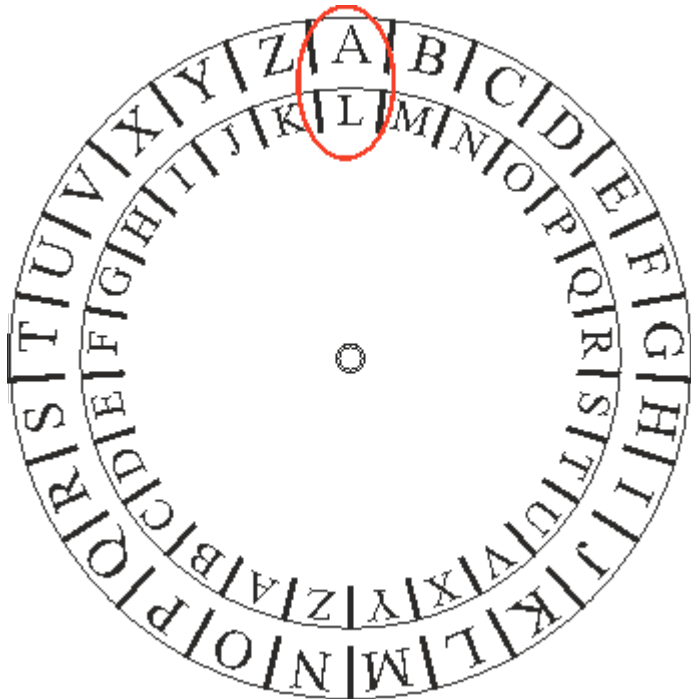


CRIPTOGRAFIA

LAS CIENCIAS MATEMATICAS

EXHIBEN PARTICULARMENTE

ORDEN Y SIMETRIA



CRIPTOGRAFIA

LAS CIENCIAS MATEMATICAS

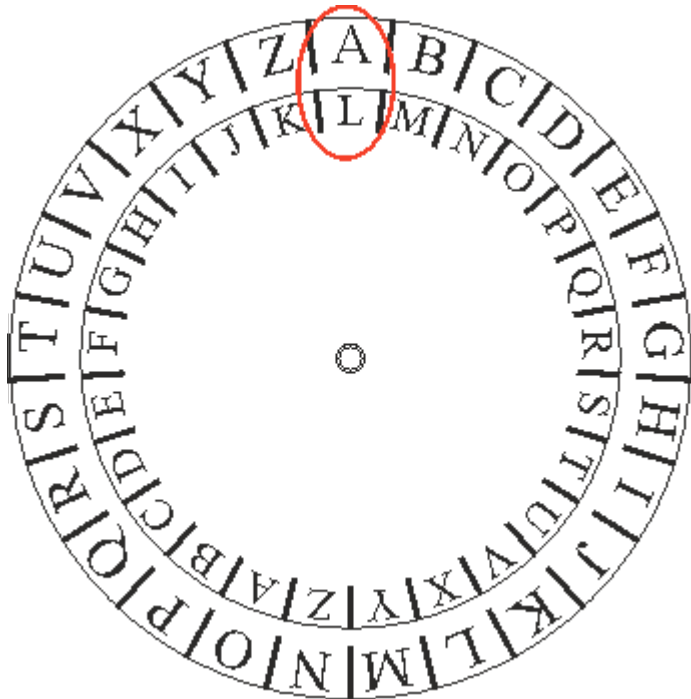
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EXHIBEN PARTICULARMENTE

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ORDEN Y SIMETRIA

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CRIPTOGRAFIA

LAS CIENCIAS MATEMATICAS

XL

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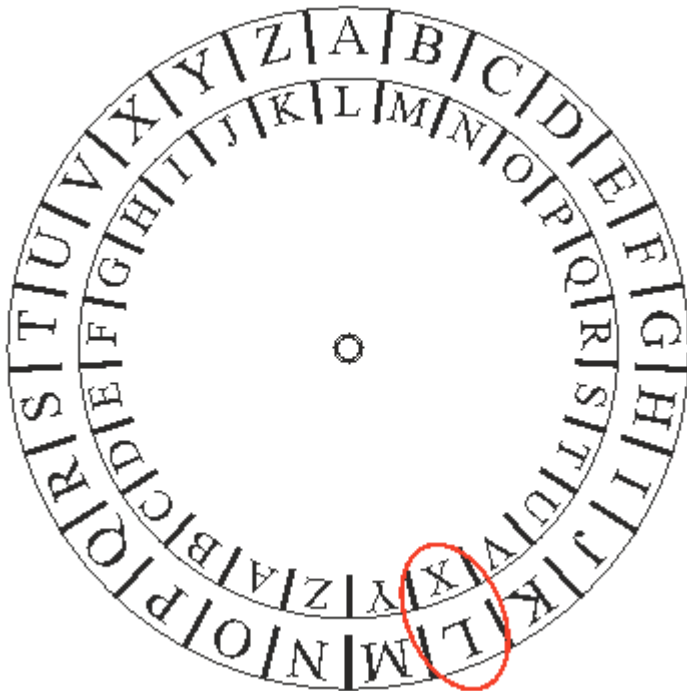
EXHIBEN PARTICULARMENTE

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XL

ORDEN Y SIMETRIA

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CRIPTOGRAFIA

LAS CIENCIAS MATEMATICAS

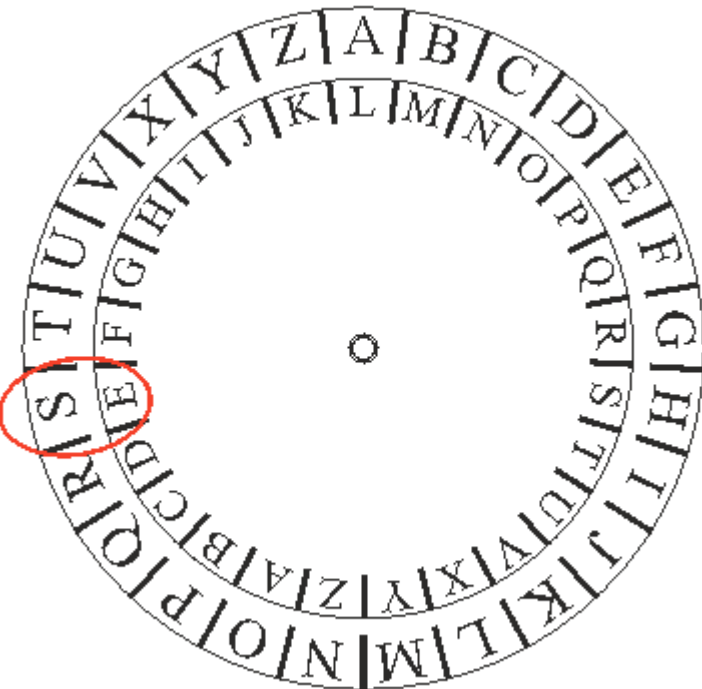
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EXHIBEN PARTICULARMENTE

L XL

ORDEN Y SIMETRIA

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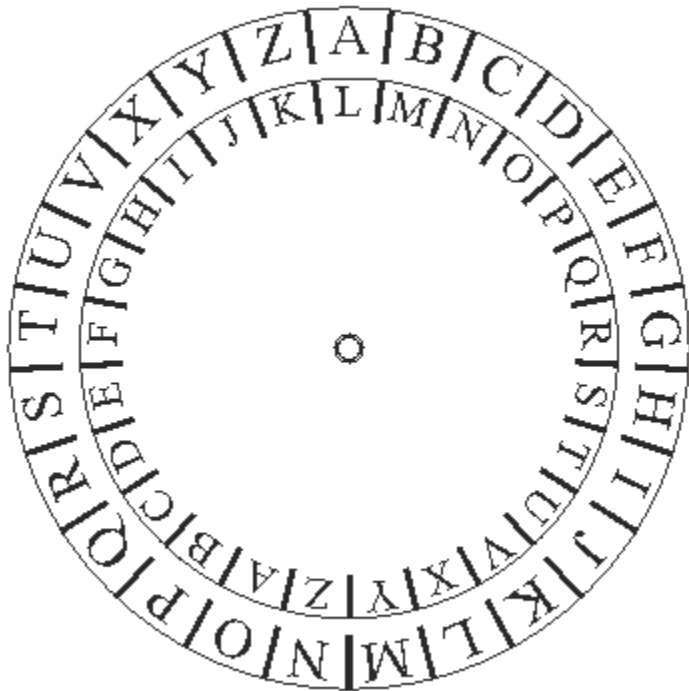


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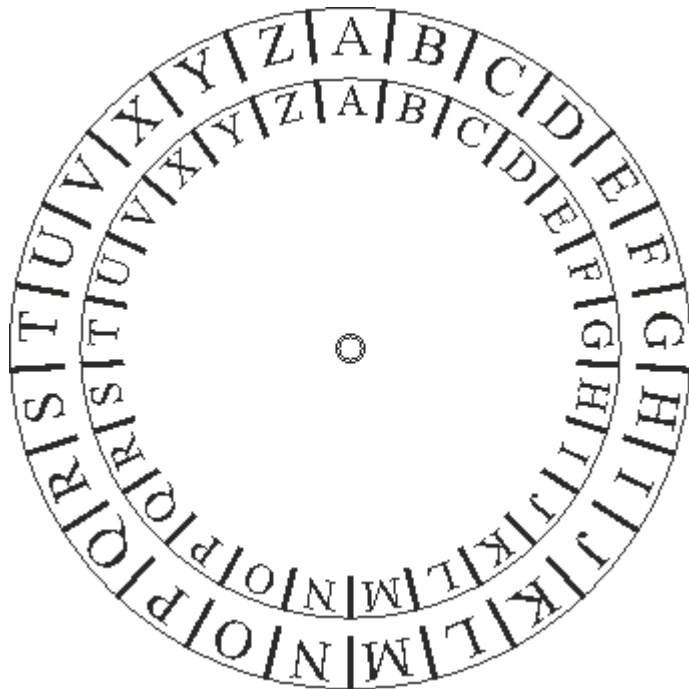
EXHIBEN PARTICULARMENTE
PISTMPZ BLDFTNGLDYPZFP

ORDEN Y SIMETRIA
ADOPZ J ETYPFDTL



CRIPTOGRAFIA

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PISTMPZ BLDFTNGLDYPZFP

ADOPZ J ETYPFDTL

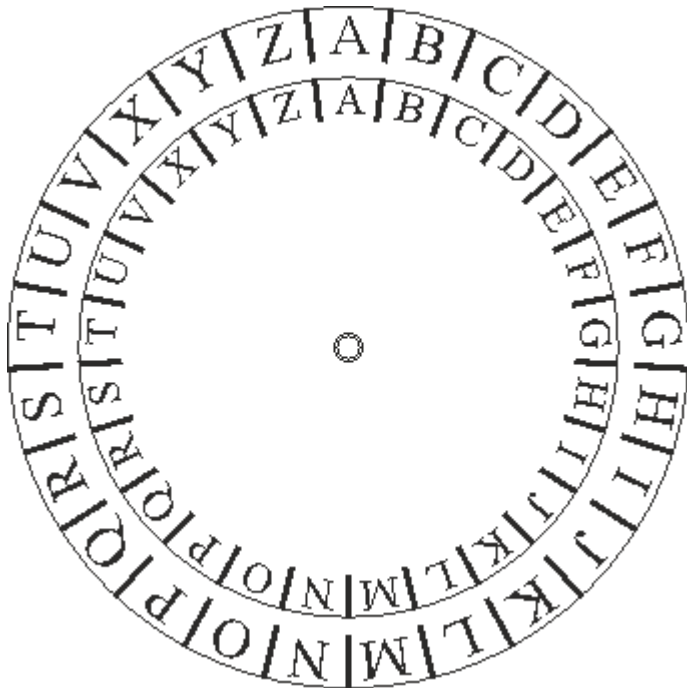
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L.....8

T.....7

XLE NTPZNTLE YLFPYLEFTNLE



PISTMPZ BLDFBTNGXLDYPZFP

ADOPZ J ETYPFDTL

CRIPTOGRAFIA

P.....8

L.....8

T.....7

A

A

XLE NTPZNTLE YLFPYLEFTNLE

A

A

A

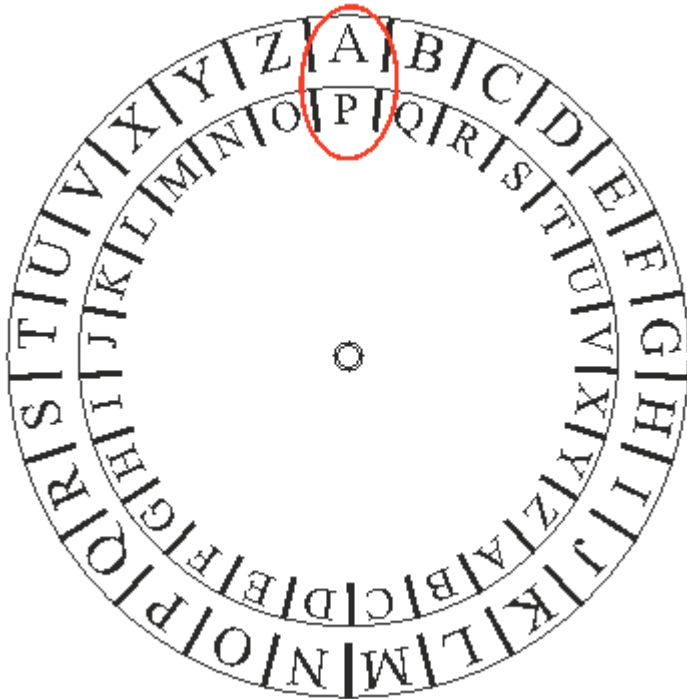
A

PISTMPZ BLDFTNGLDYPZFP

A

A

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CRIPTOGRAFIA

P.....8

L.....8

T.....7

HVO

A

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XLE NTPZNTLE YLFPYLEFTNLE

A

A

A

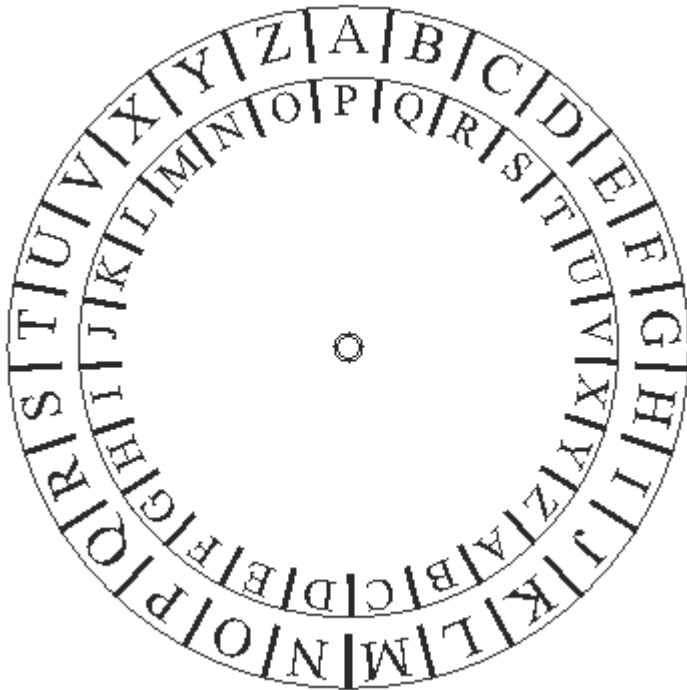
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ADOPZ J ETYPFDTL



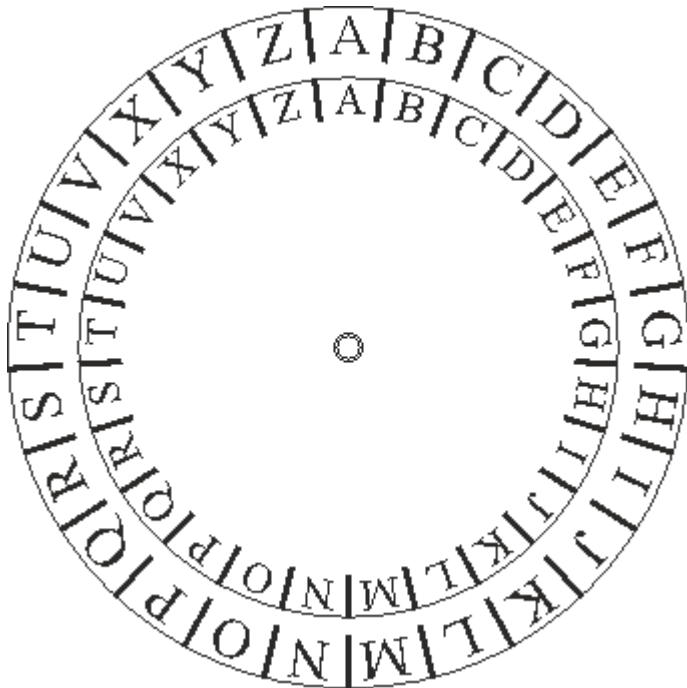
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P.....8

L.....8

T.....7

XLE NTPZNTLE YLFPYLEFTNLE



PISTMPZ BLDFTNGLDYPZFP

ADOPZ J ETYPFDTL

CRIPTOGRAFIA

P.....8

L.....8

T.....7

A A A A A

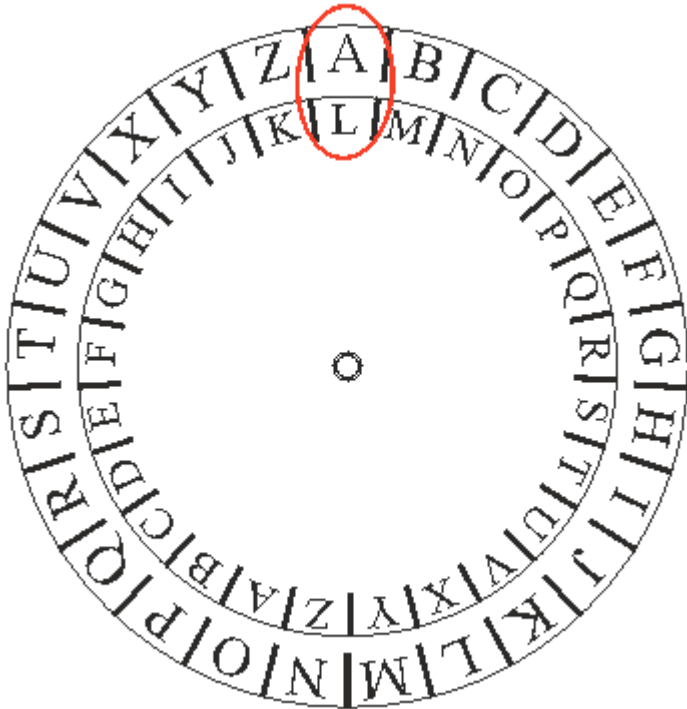
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A A

PISTMPZ BLDFBTNGXLDYPZFP

A

ADOPZ J ETYPFDTL



CRIPTOGRAFIA

P.....8

L.....8

T.....7

LAS

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A

XLE NTPZNTLE YLFPYLEFTNLE

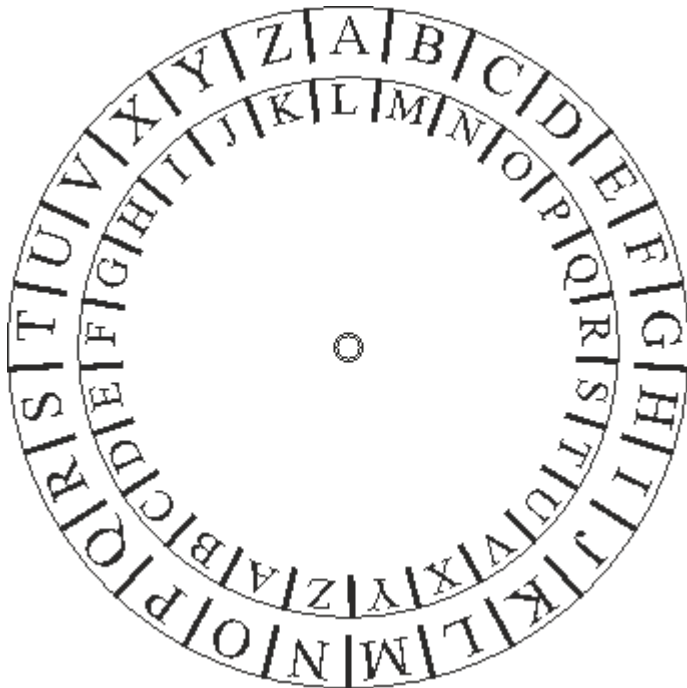
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A

PISTMPZ BLDFBTNGXLDYPZFP

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CRIPTOGRAFIA

P.....8

L.....8

T.....7

LAS CIENCIAS MATEMATICAS

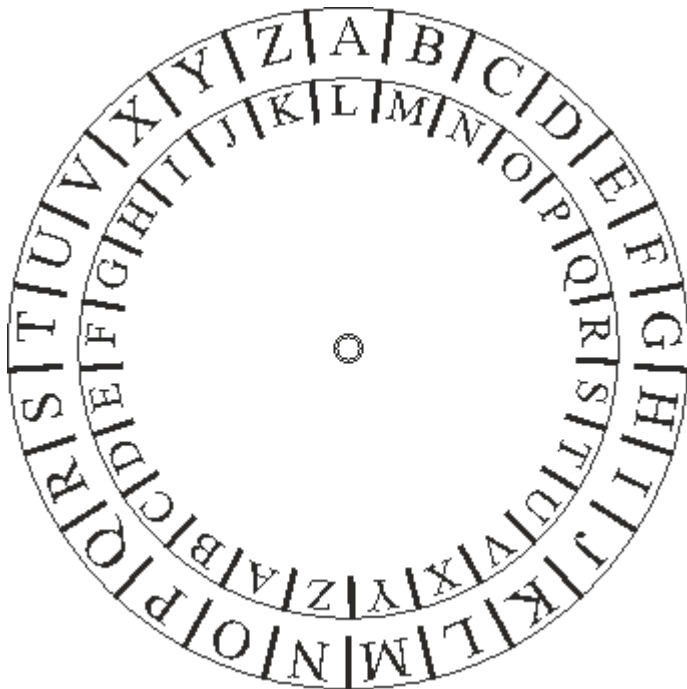
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EXHIBEN PARTICULARMENTE

PISTMPZ BLDFTNGLDYPZFP

ORDEN Y SIMETRIA

ADOPZ J ETYPFDTL

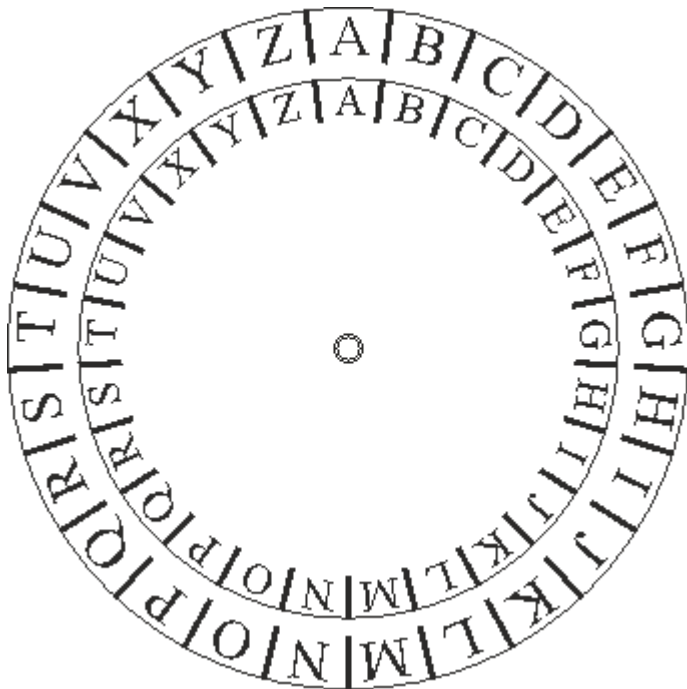


CRIPTOGRAFIA

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KTAOKTJKZ RGZ IUZGZ AK

GIUZABSHYGZ G KRRGZ



CRIPTOGRAFIA

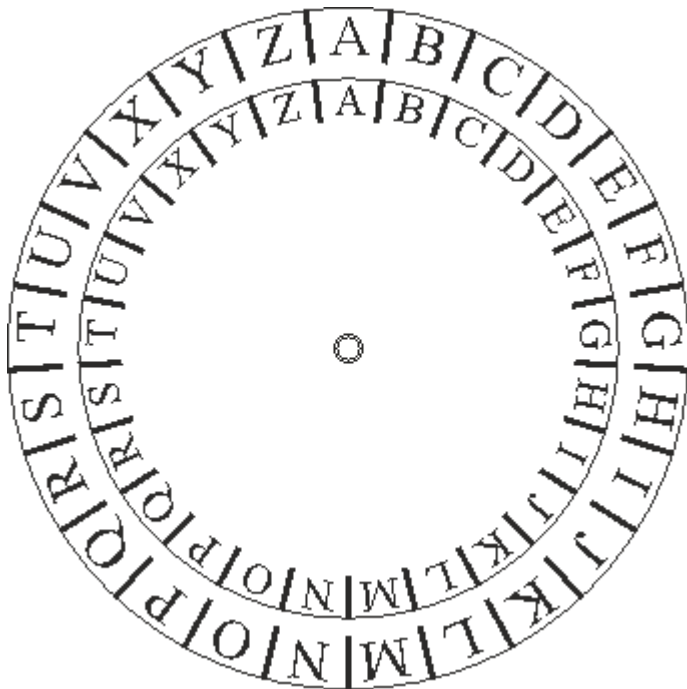
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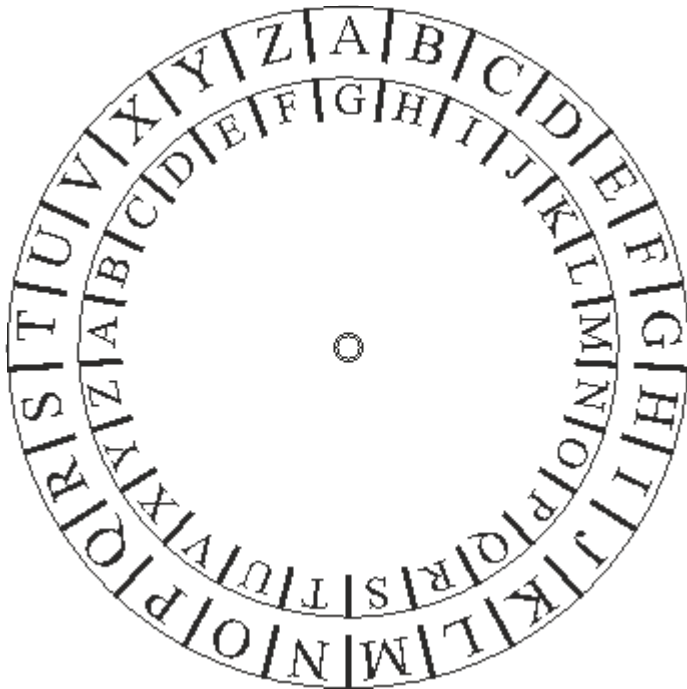
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Z.....9

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CRIPTOGRAFIA

G...10

Z.....9

A A A A

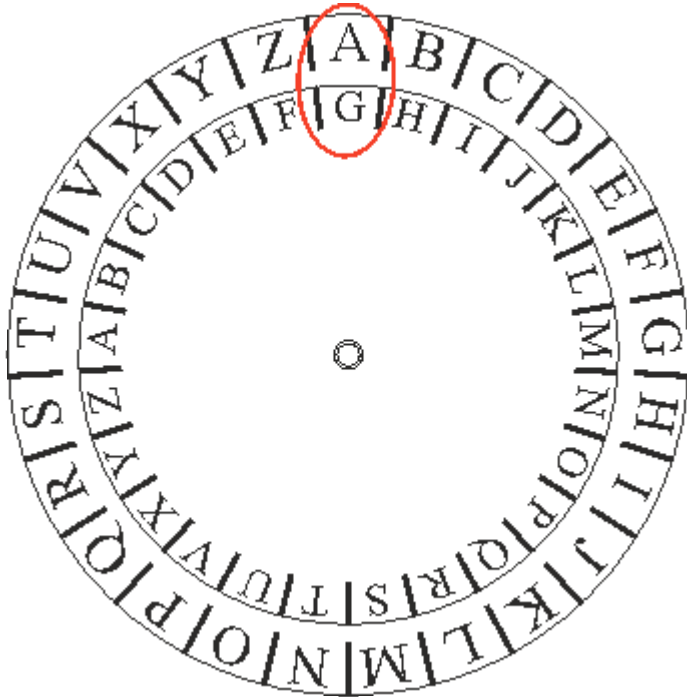
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A A A A

GIUZABSHYGZ G KRRGZ



CRIPTOGRAFIA

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Z.....9

EN A A A A

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A A

KTAOKTJKZ RGZ IUZGZ AK

A A A A

GIUZABSHYGZ G KRRGZ



CRIPTOGRAFIA

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Z.....9

EN LAS MATEMATICAS NO

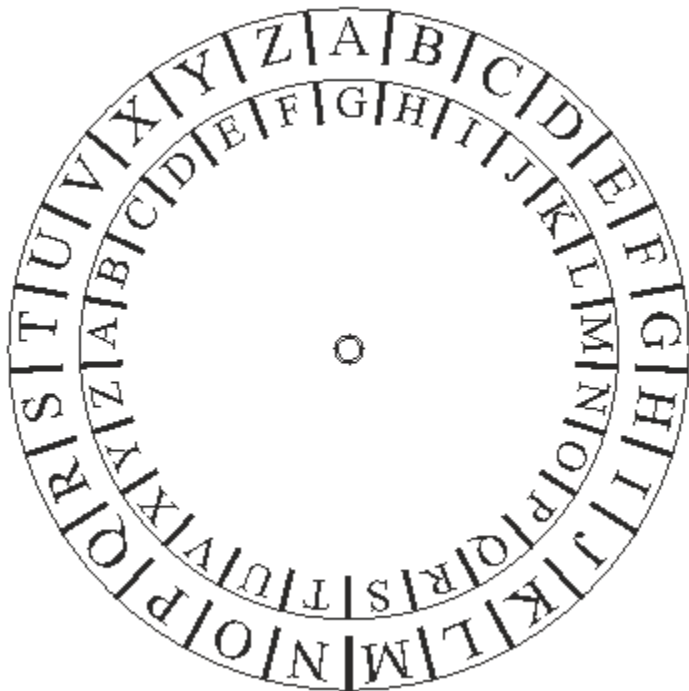
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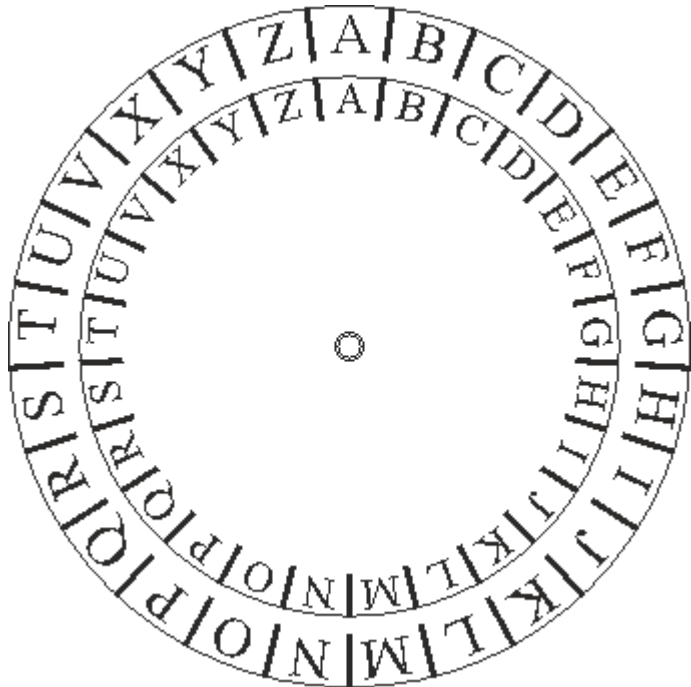
ACOSTUMBRAS A ELLAS

GIUZABSHYGZ G KRRGZ



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SC RSBHDHIGOG AOH QDHOH

BOH DPKXOH RS AO TDGBO

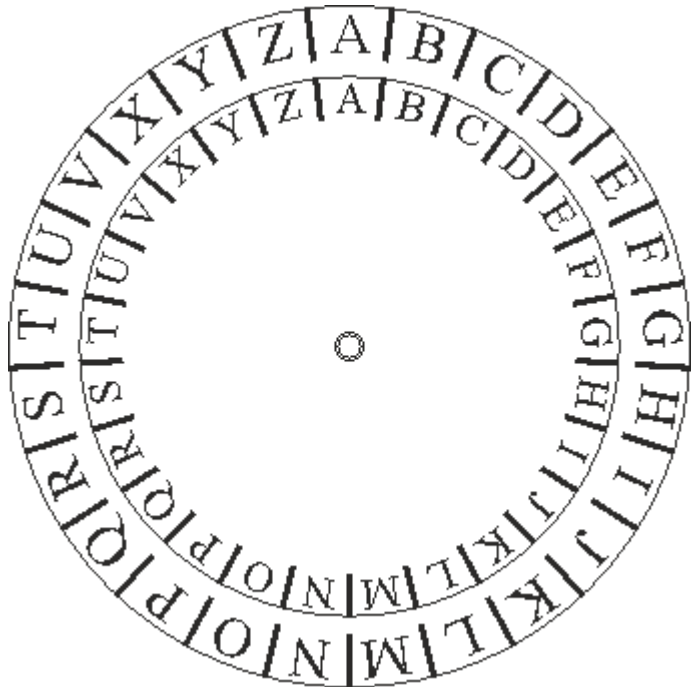
BSCDH DPKXO

CRIPTOGRAFIA

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H...11

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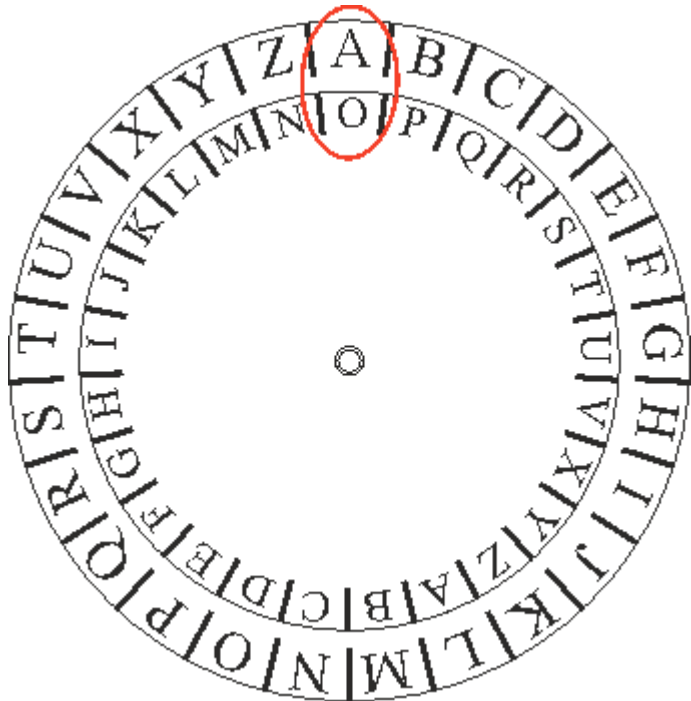
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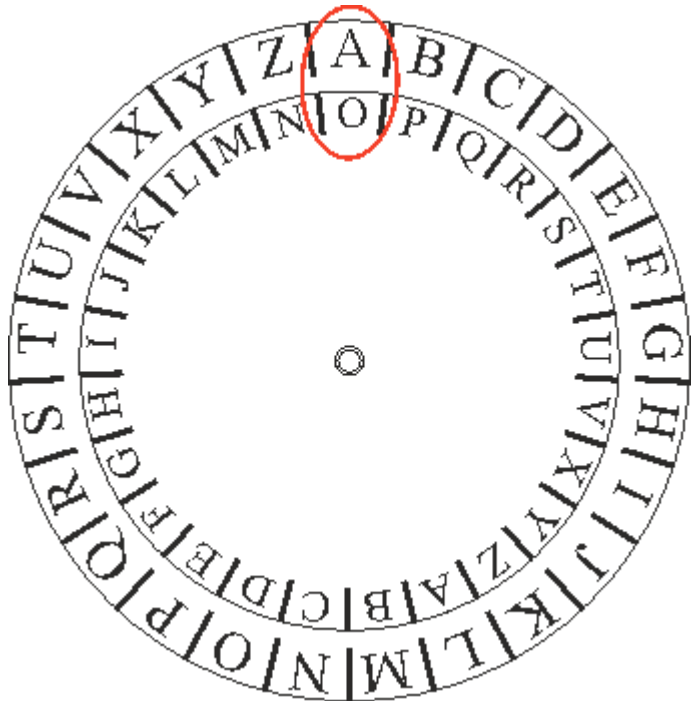
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O...12

A A A A

H...11

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A A A

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A A A A A

BOH DPKXOH RS AO TDGBO

A

BSCDH DPKXO

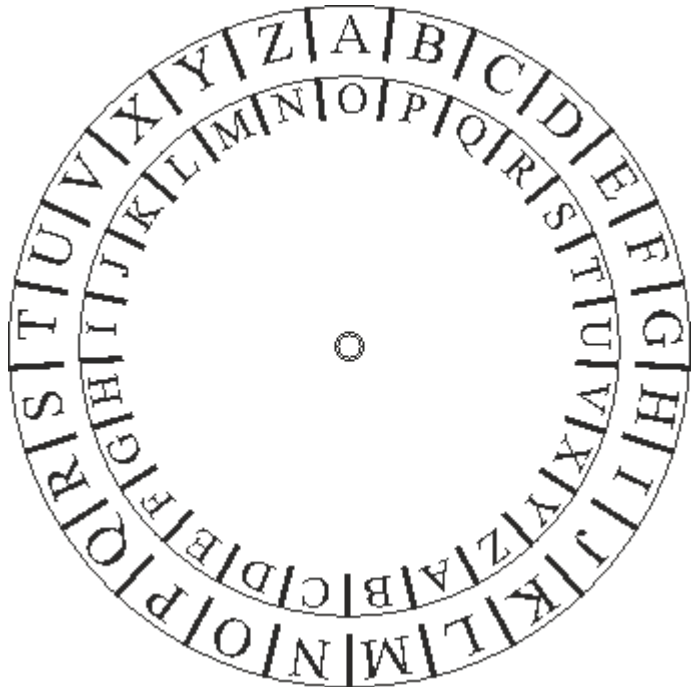
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O...12

LAS A A A

H...11

AOH BOISBOIXQOH QDCHXHISC



A A A

SC RSB DHIGOG AOH QDHOH

A A A A A

BOH DPKXOH RS AO TDGBO

A

BSCDH DPKXO

CRIPTOGRAFIA

O...12

H...11

LAS MATEMATICAS CONSISTEN

AOH BOISBOIXQOH QDCHXHISC

EN DEMOSTRAR LAS COSAS

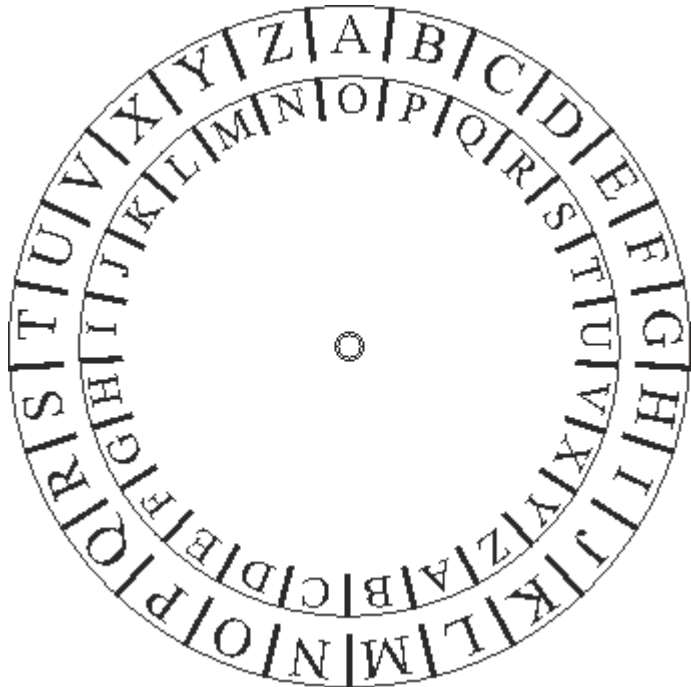
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MAS OBVIAS DE LA FORMA

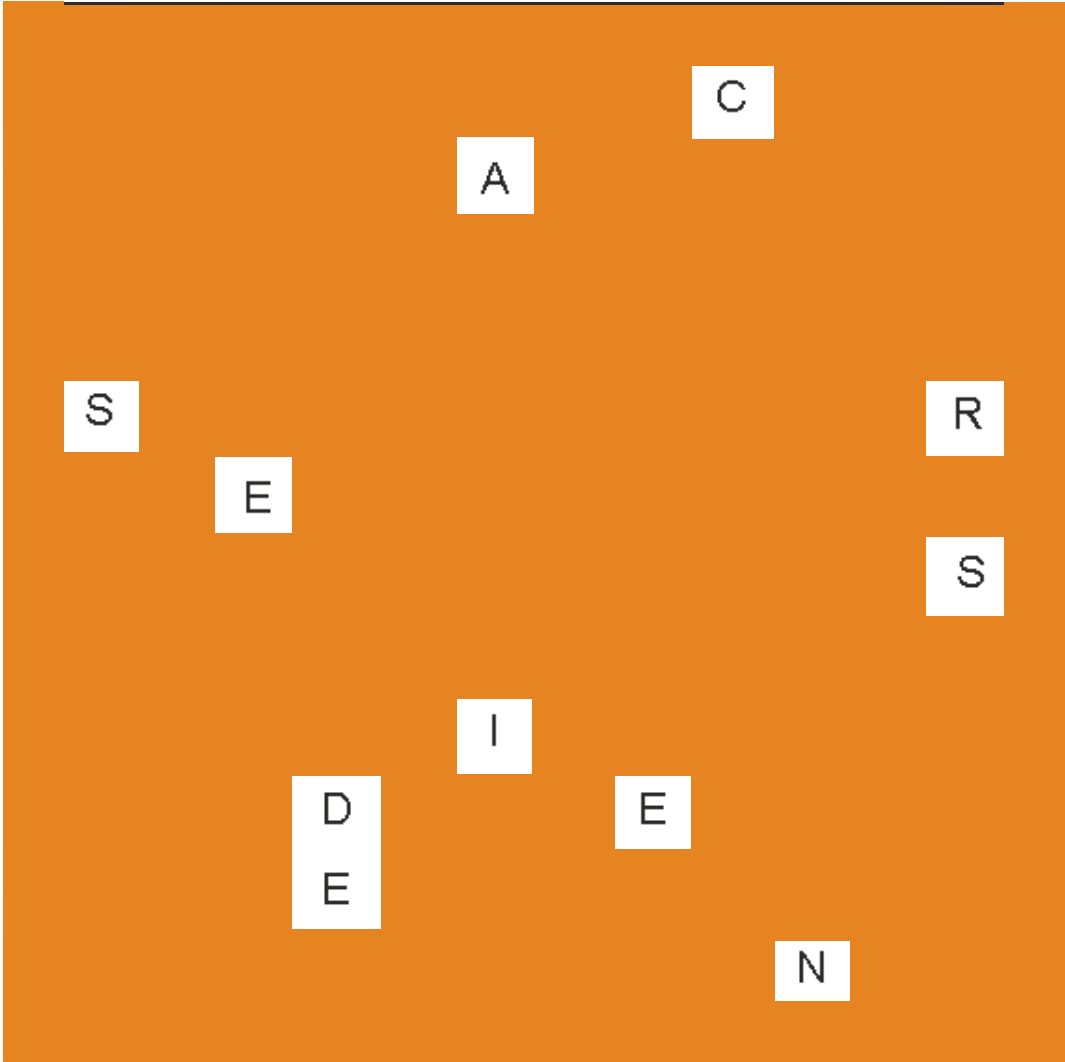
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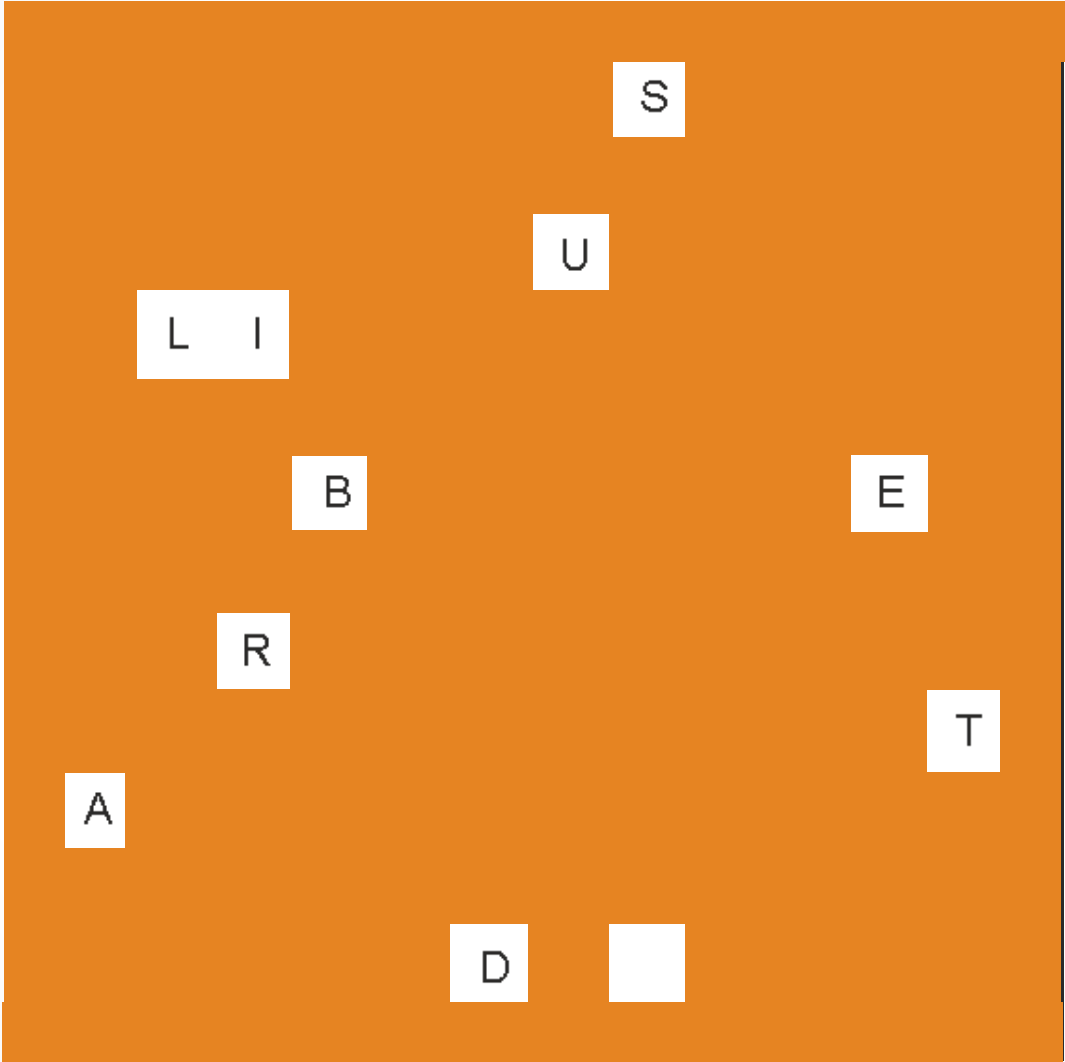
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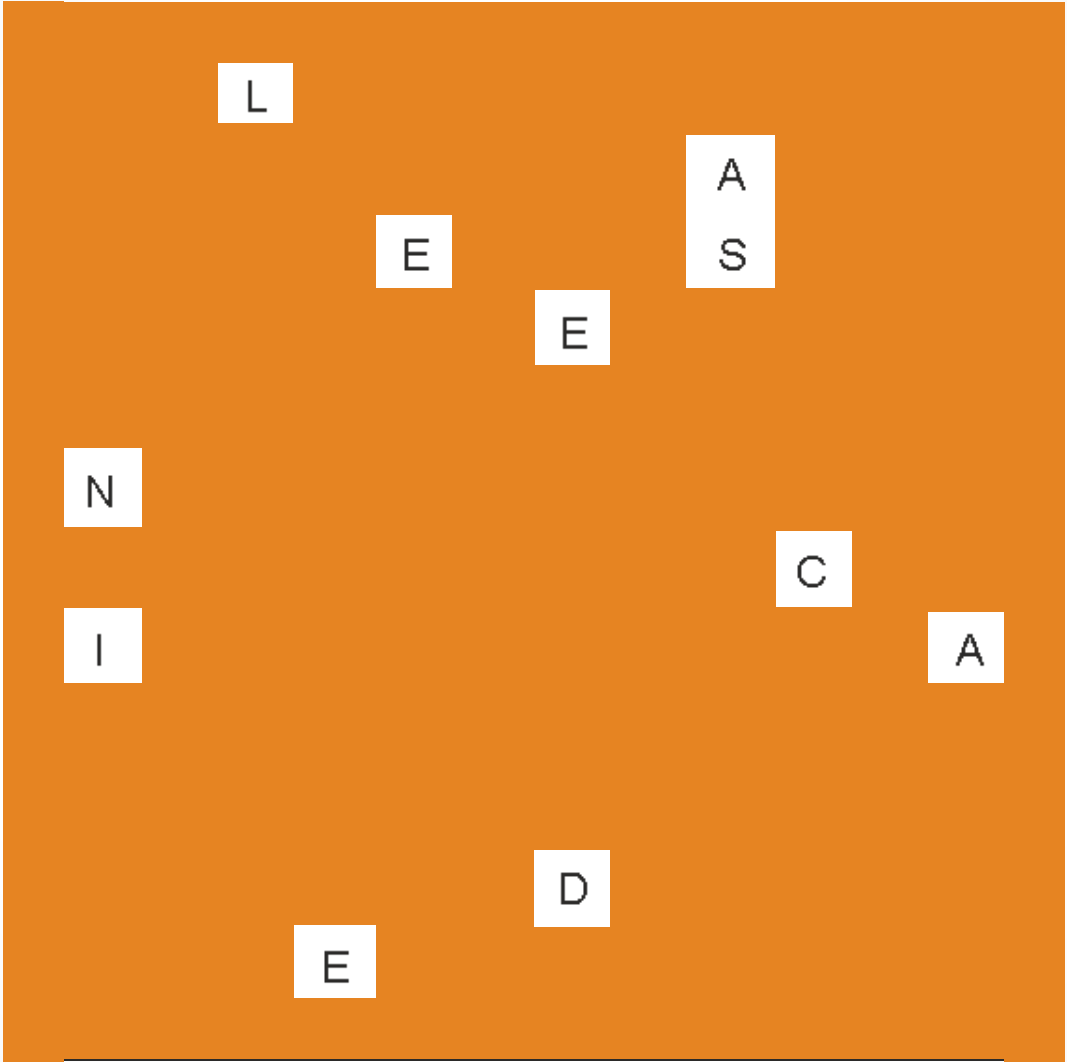
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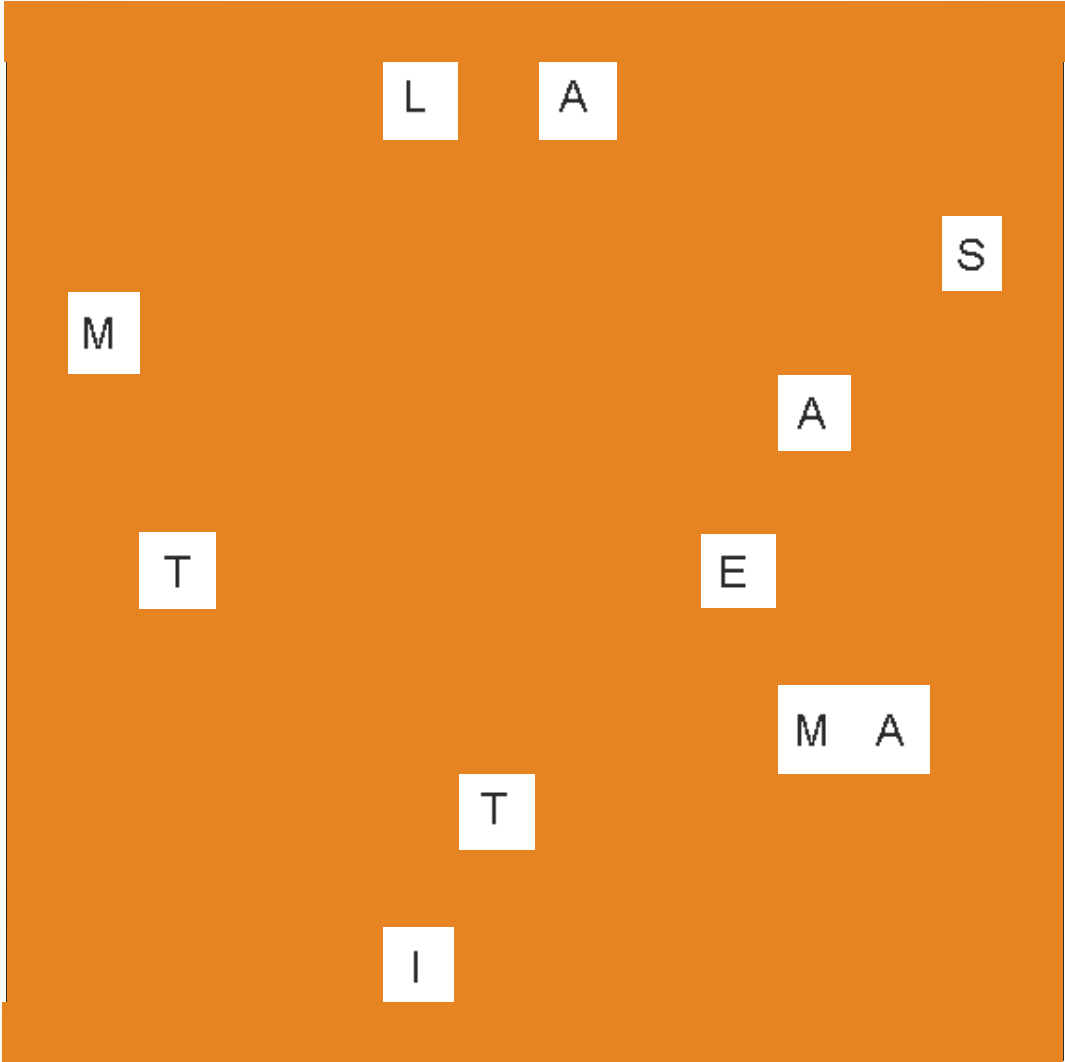


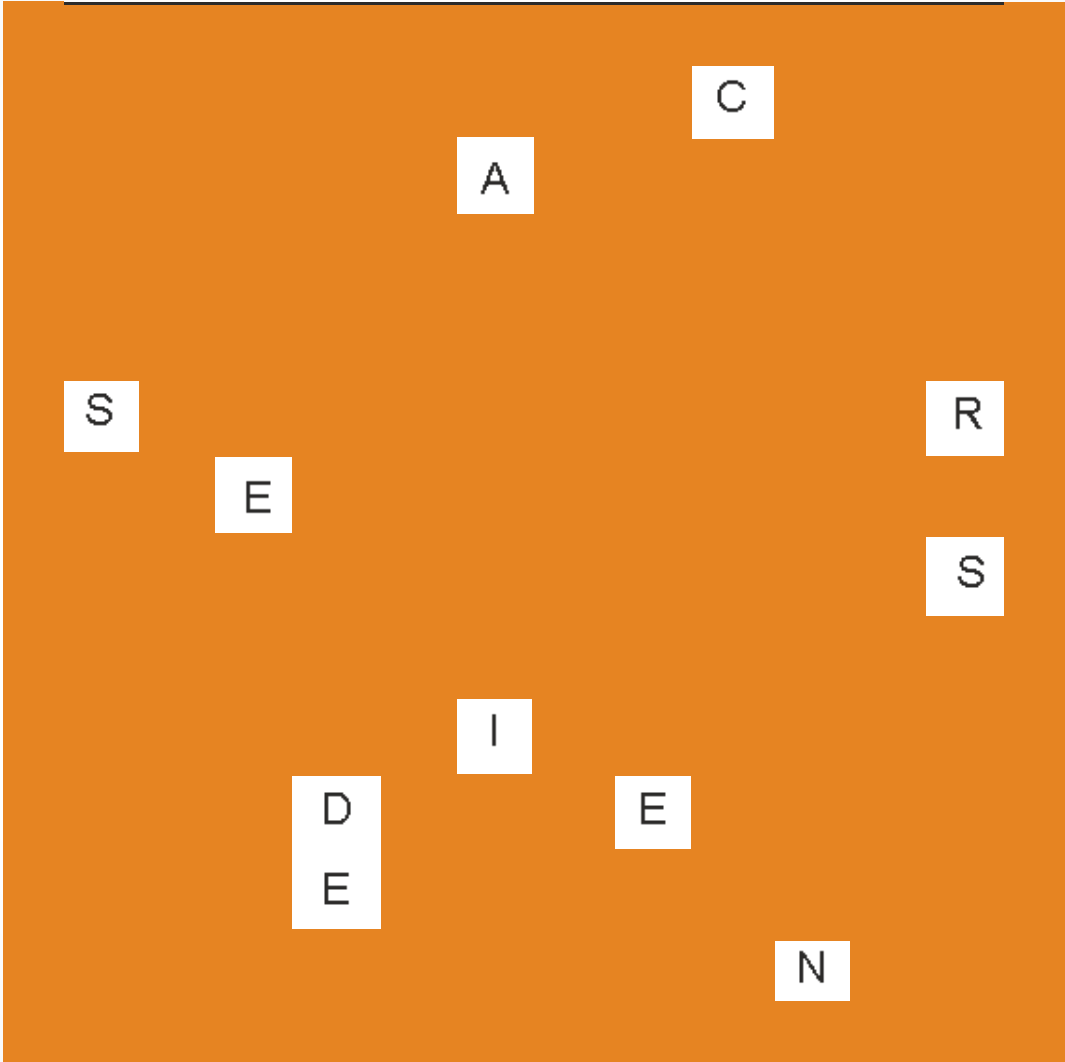
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N	T	E	B	R	M	D	O	N	G	E	D
E	T	T	S	S	R	A	E	E	C	E	S
I	C	R	I	L	E	M	E	T	R	B	A
C	M	U	R	A	I	A	L	O	M	A	T
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S	P	A	E	I	D	E		M	N	L	

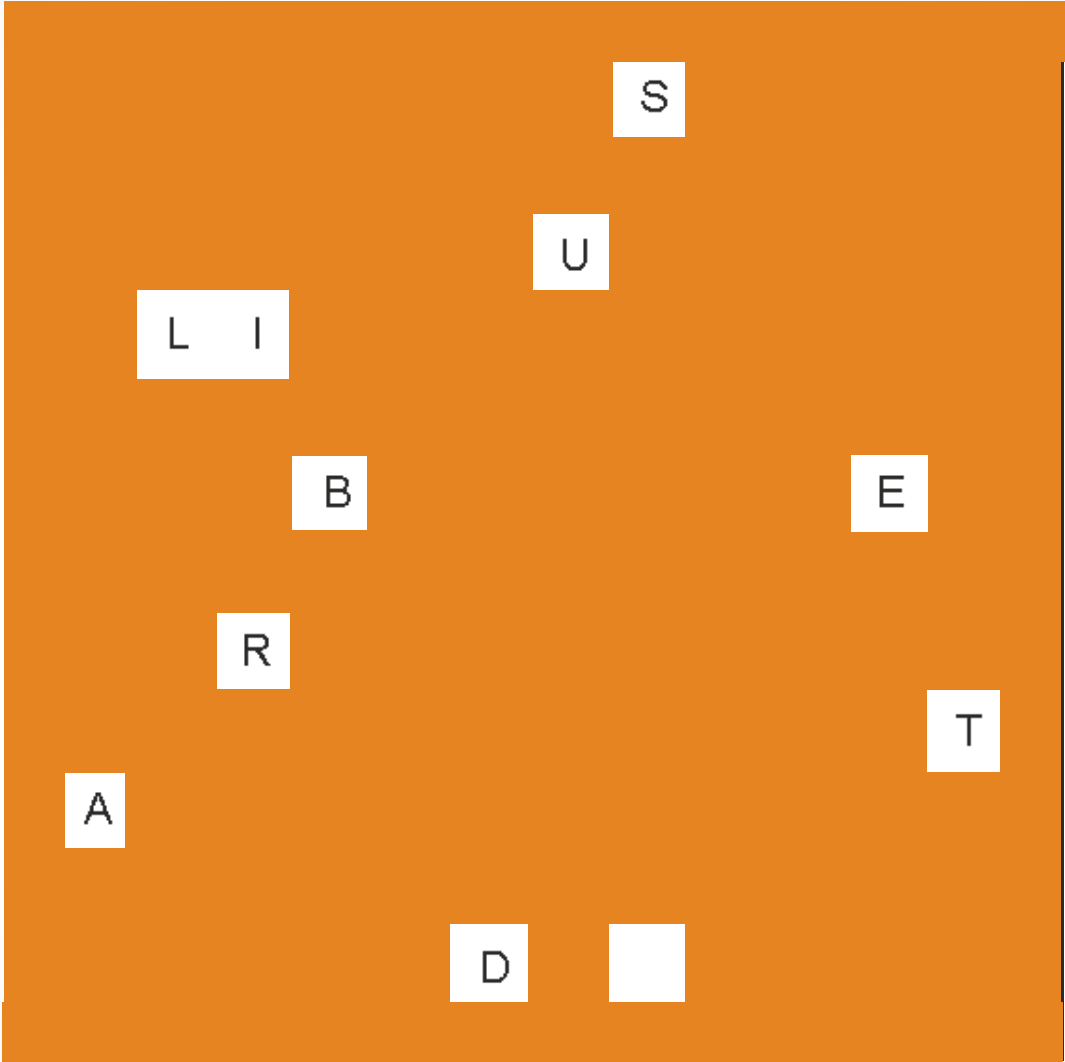




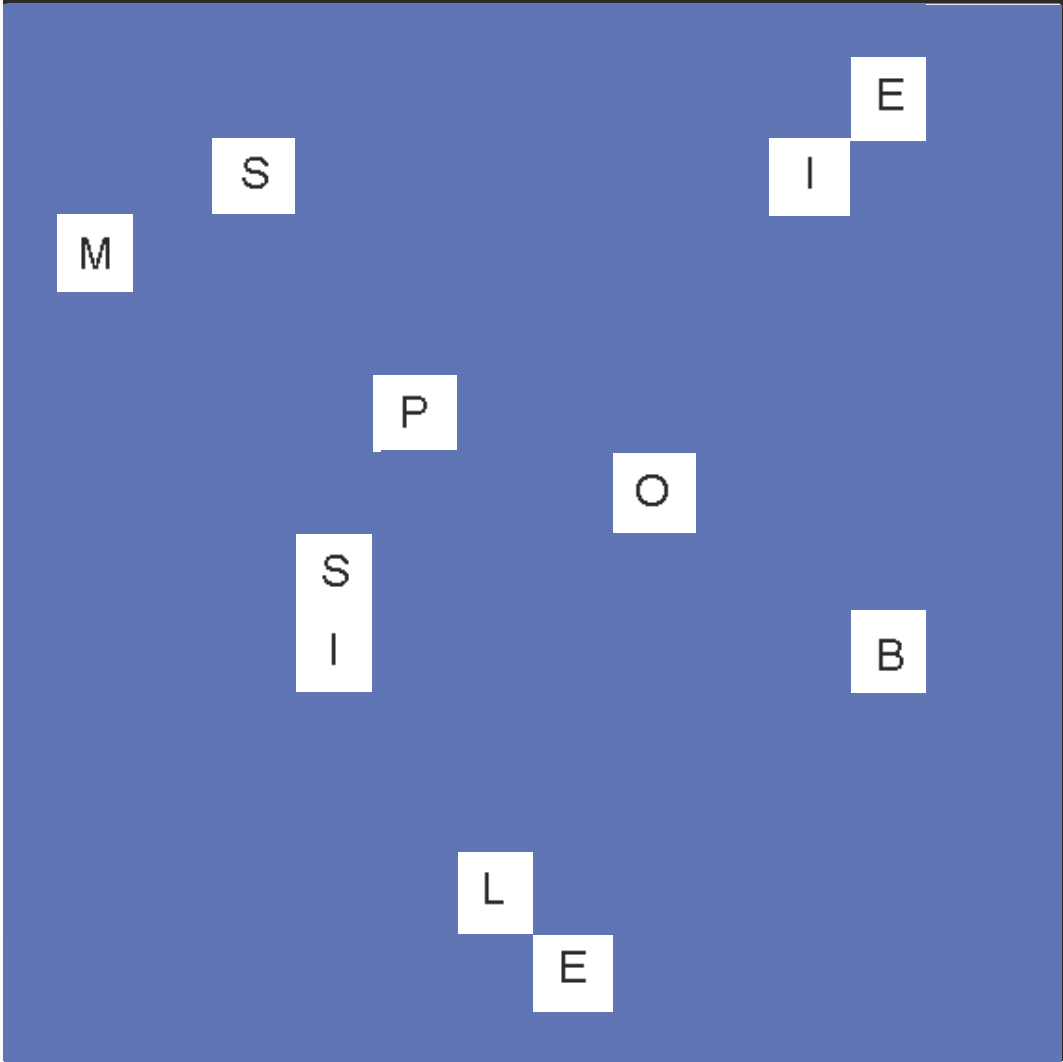


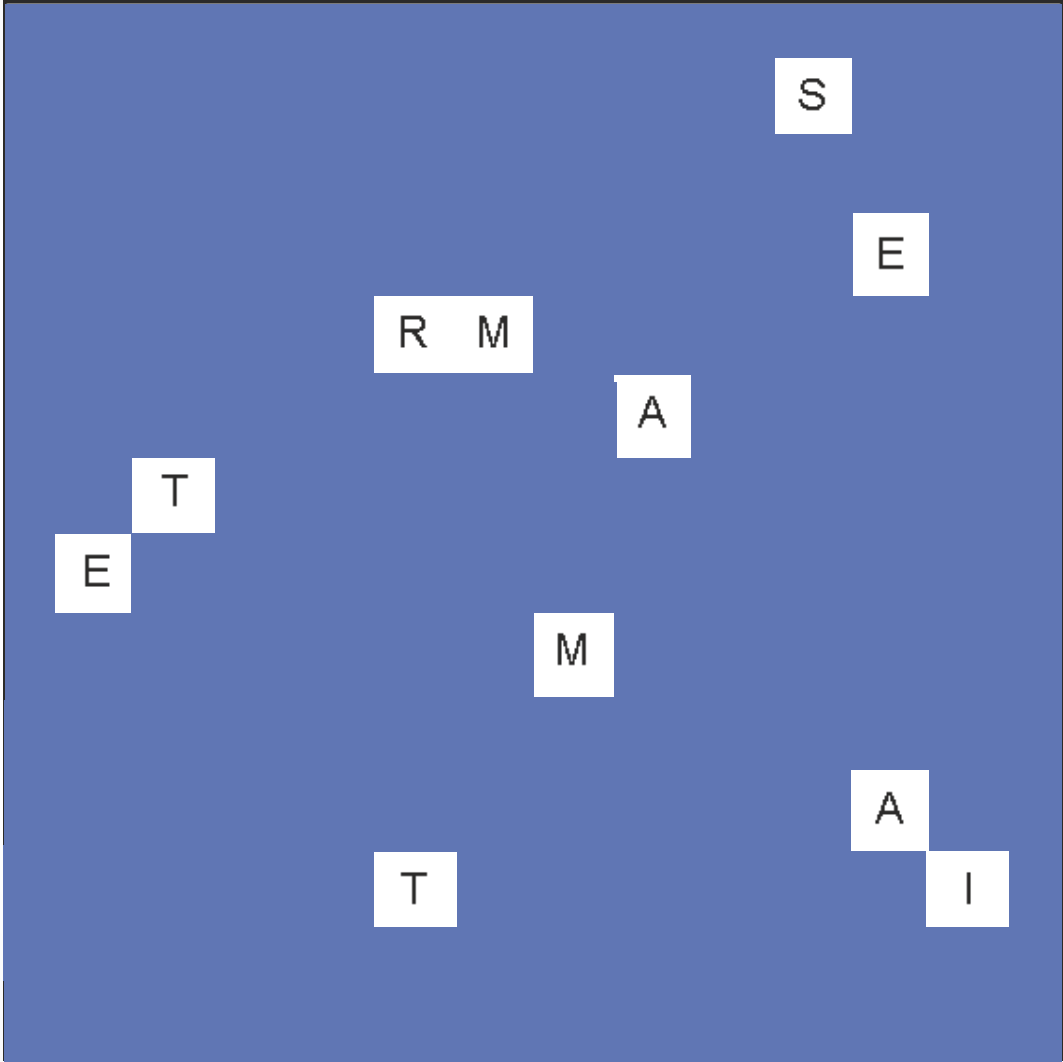


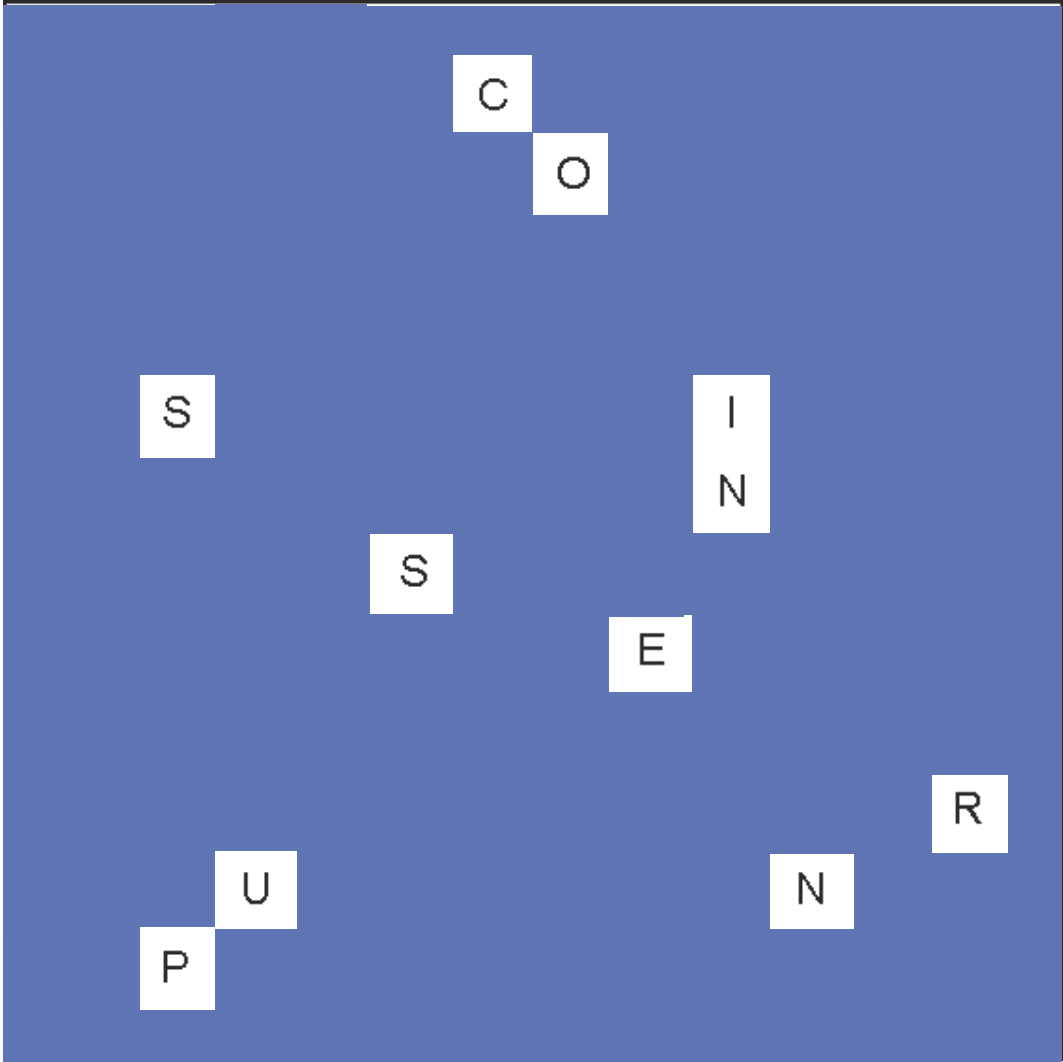


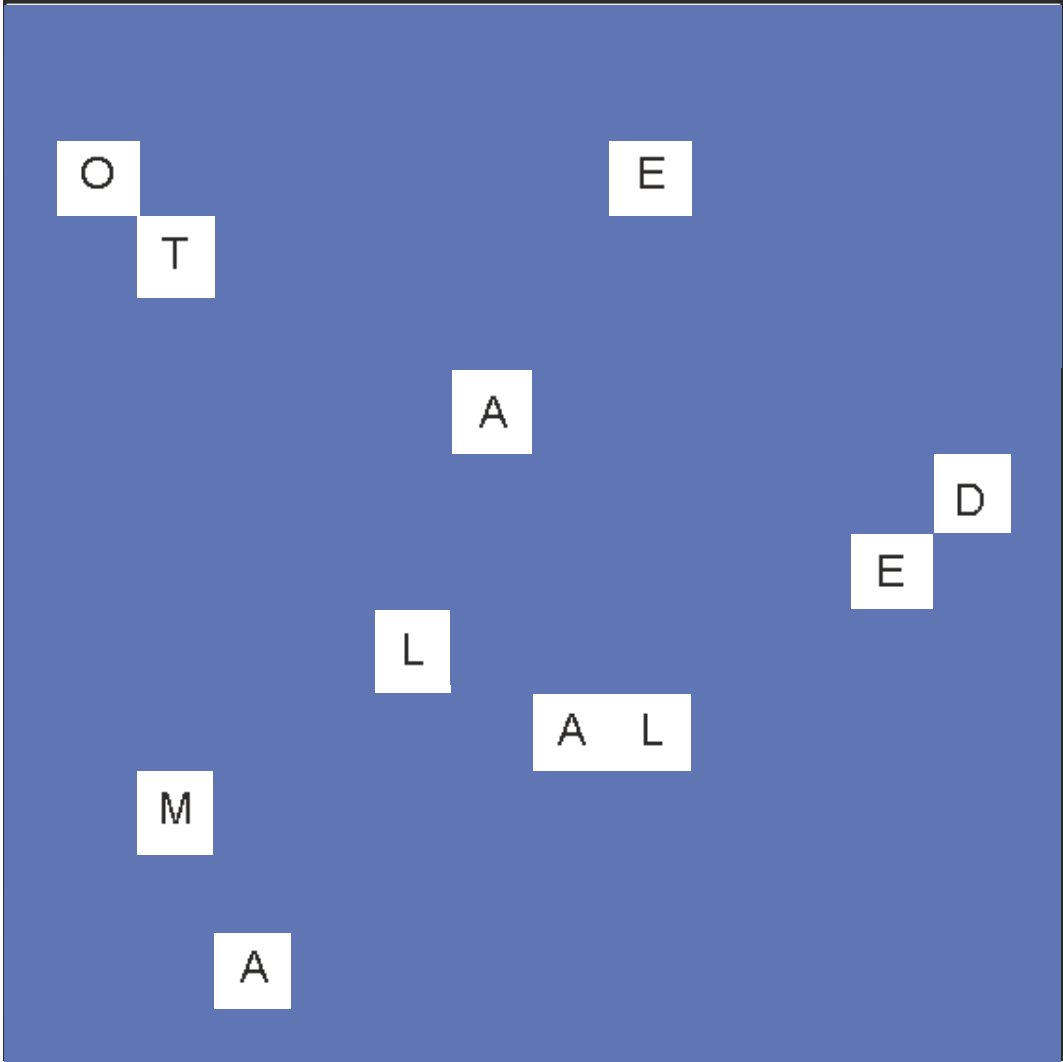


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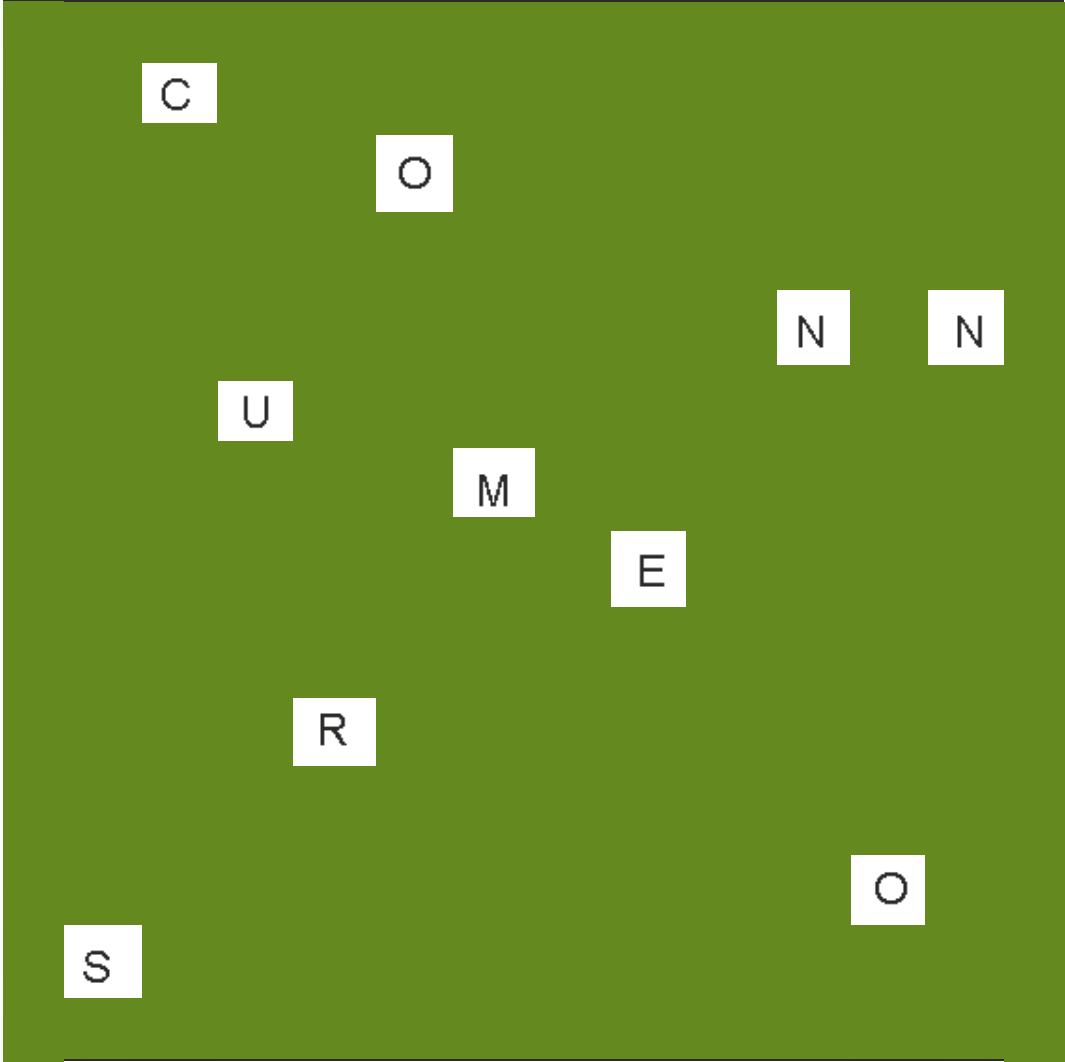








S	C	L	Q	A	C	E	M	A	S	E	O
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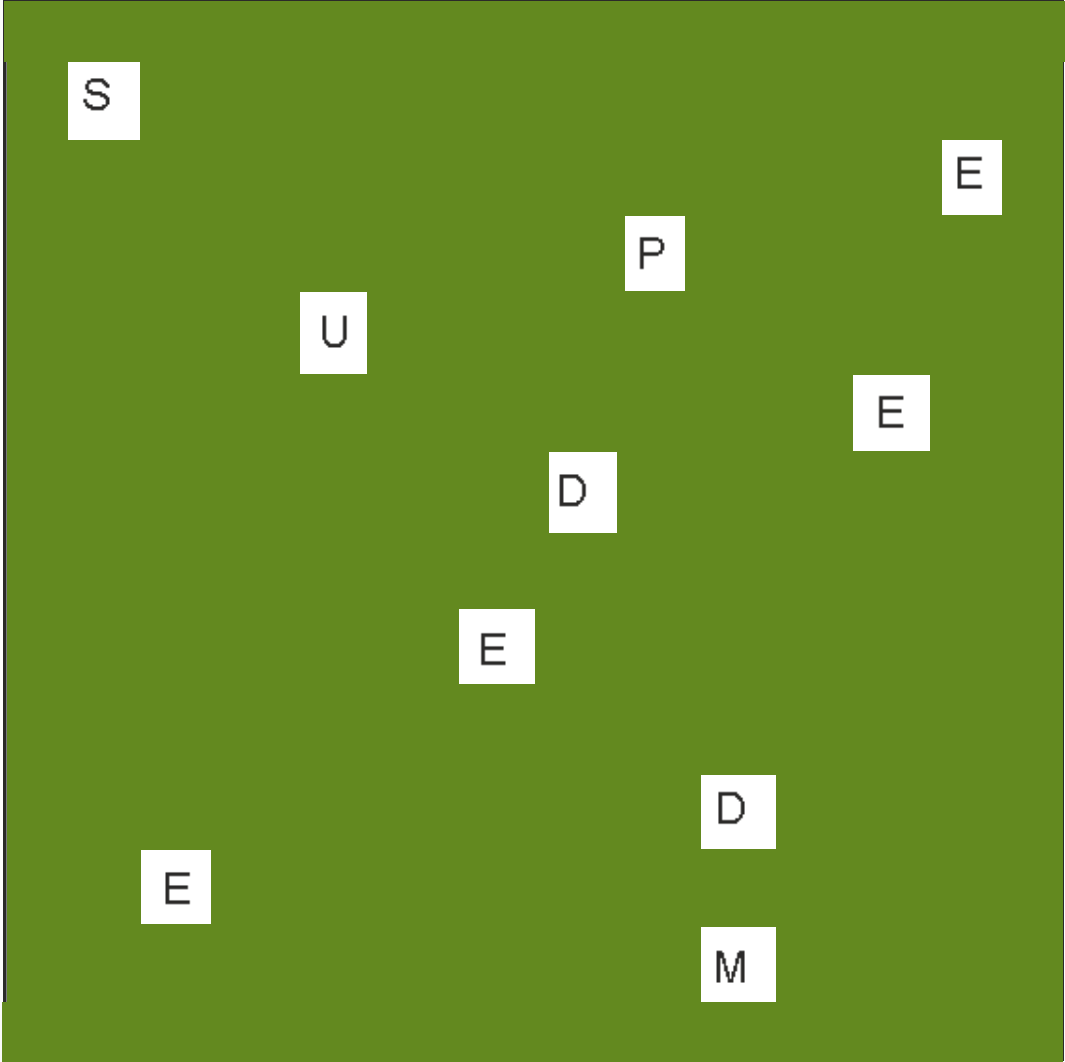
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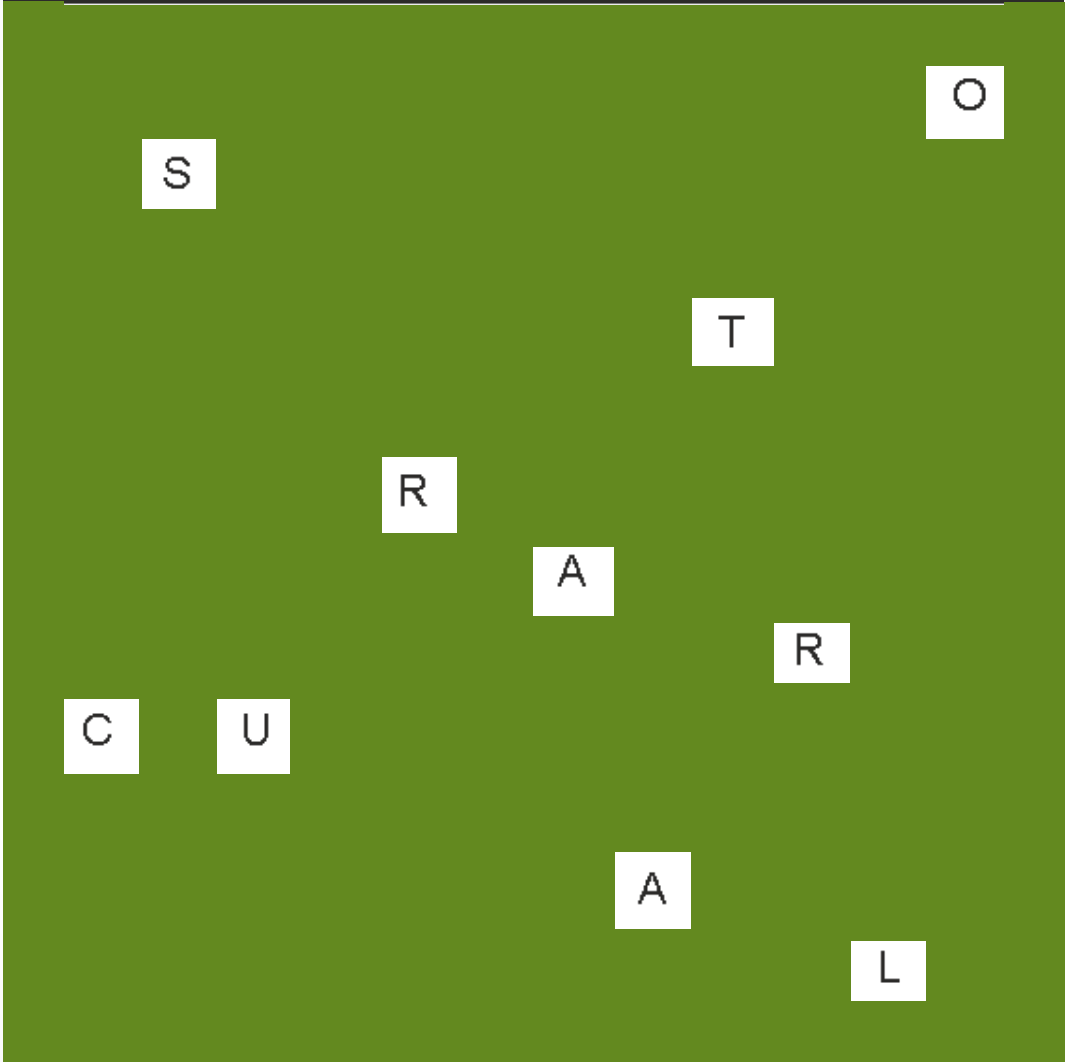
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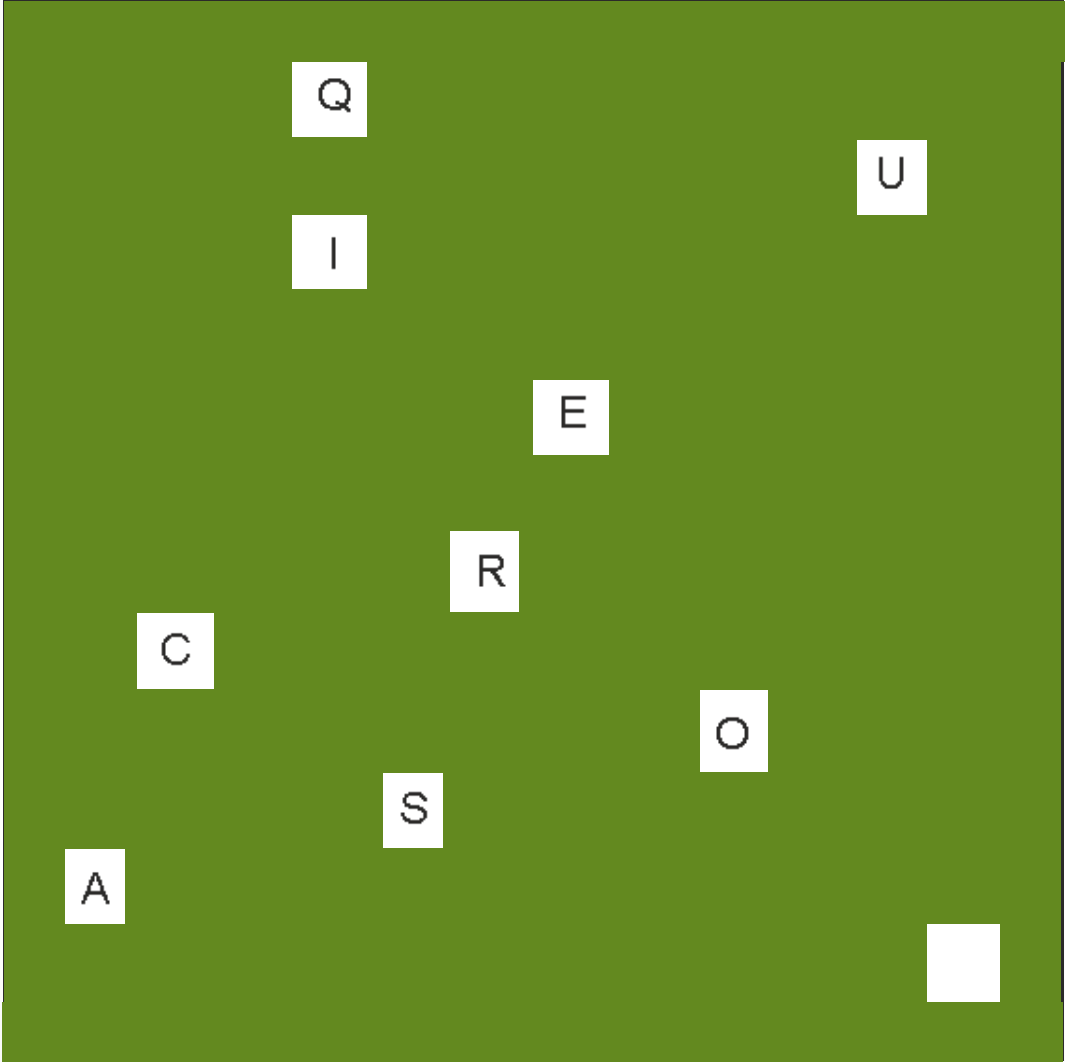
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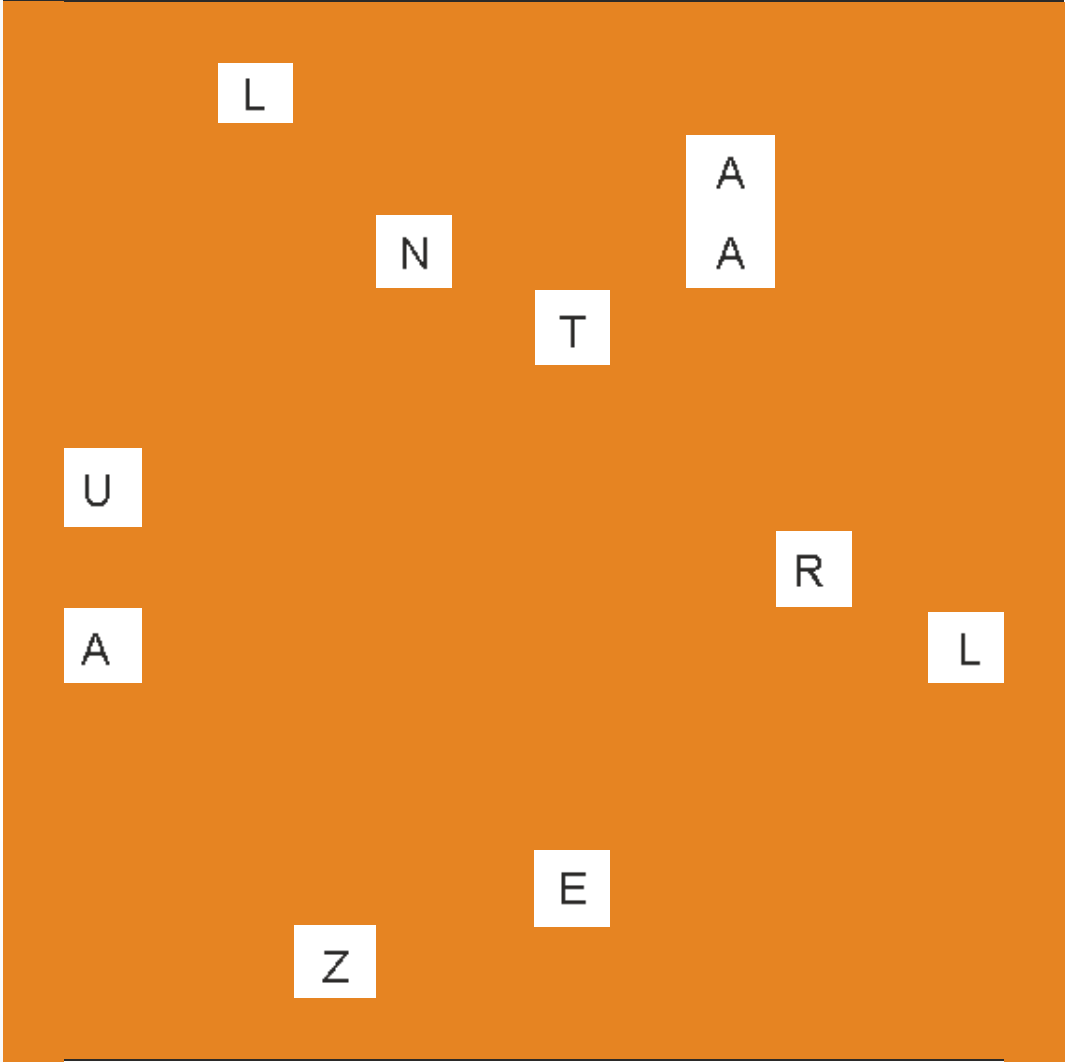
S







S	C	L	Q	A	C	E	M	A	S	E	O
O	S	S	M	O	E	O	E	A	I	U	E
M	T	A	I	N	X	A	P	A	B	E	S
T	T	E	U	R	M	T	E	T	N	A	N
N	S	U	X	P	A	E	A	I	A	E	L
U	T	E	M	R	M	D	O	N	G	A	D
E	E	T	S	S	R	A	E	S	R	E	N
A	C	T	I	L	E	M	E	T	R	B	L
C	M	U	R	A	G	A	L	O	C	R	I
C	M	E	U	S	I	A	A	D	G	A	R
A	E	U	J	T	L	E	A	E	N	O	I
S	P	A	Z	T	O	E		M	E	L	



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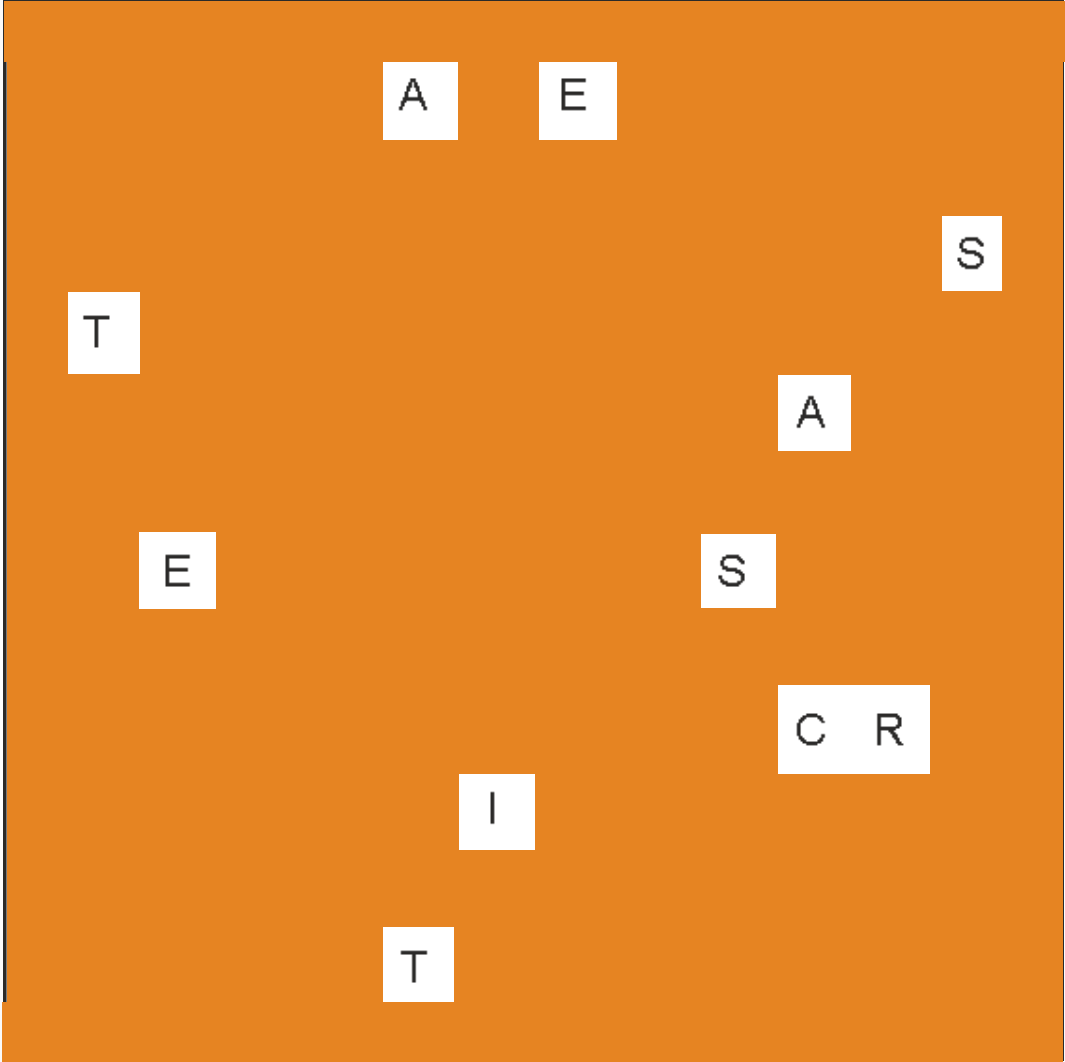
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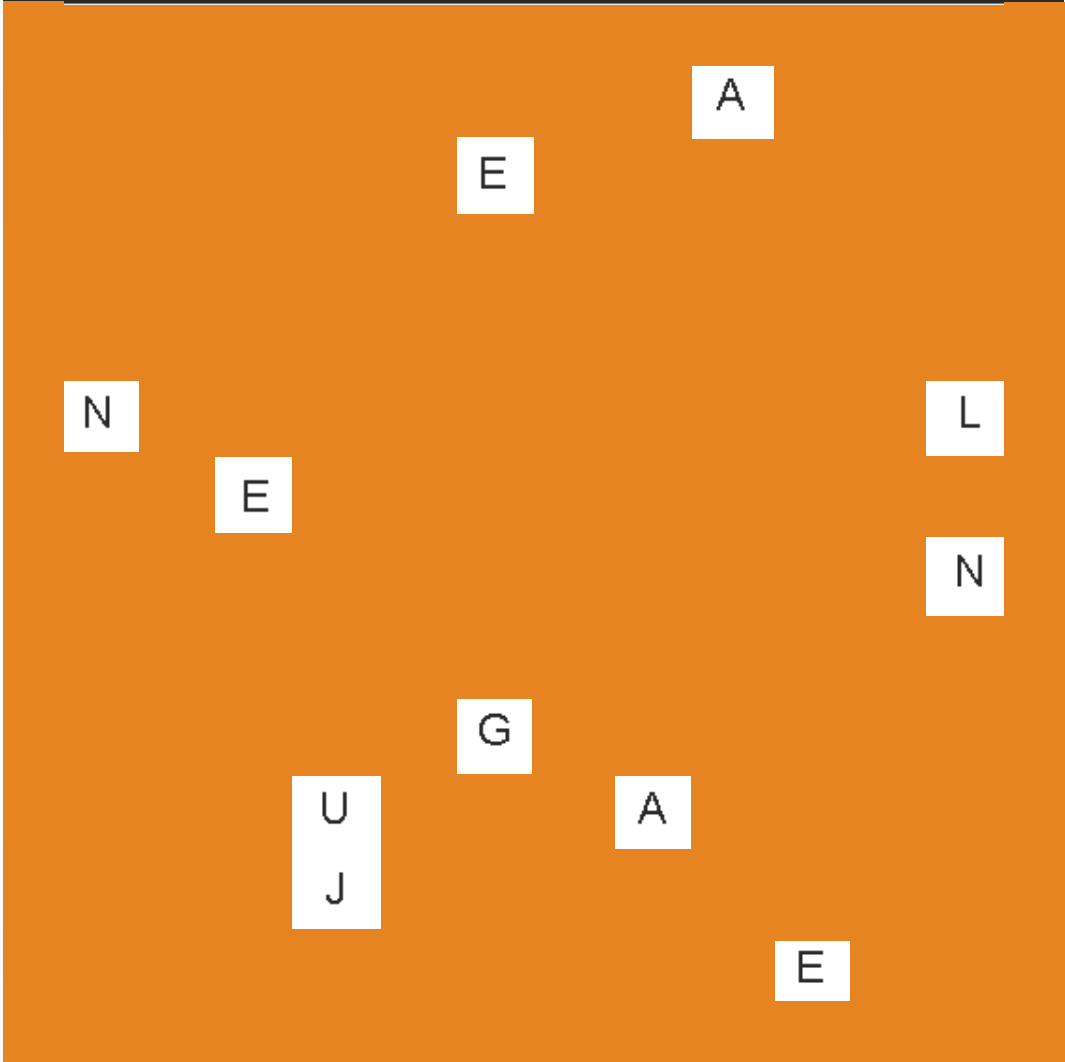
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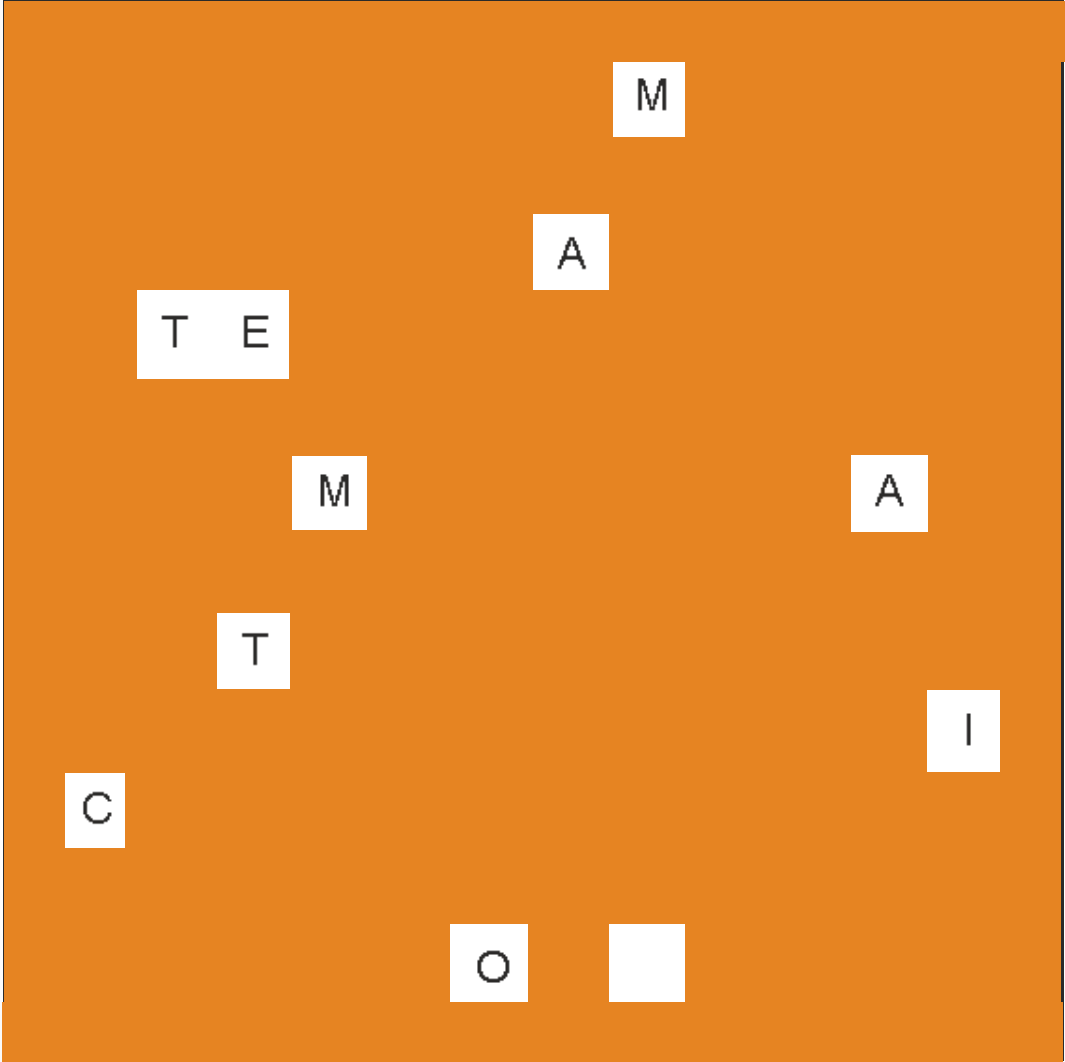
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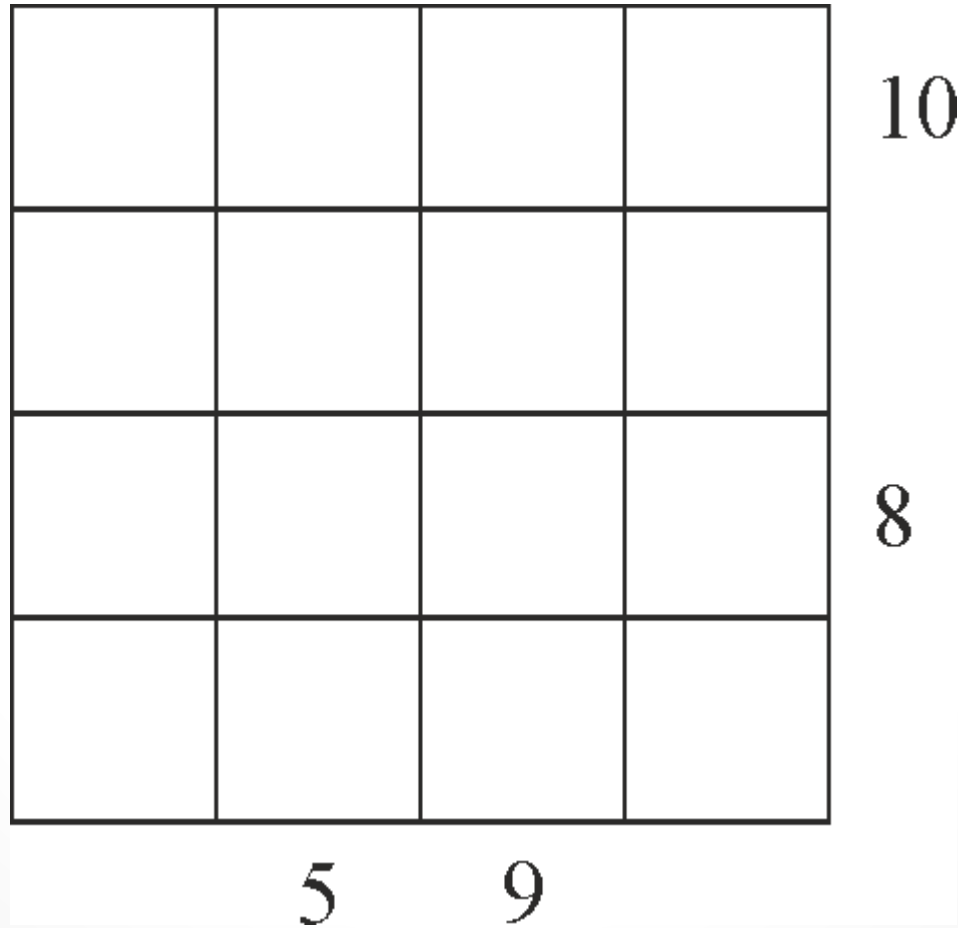
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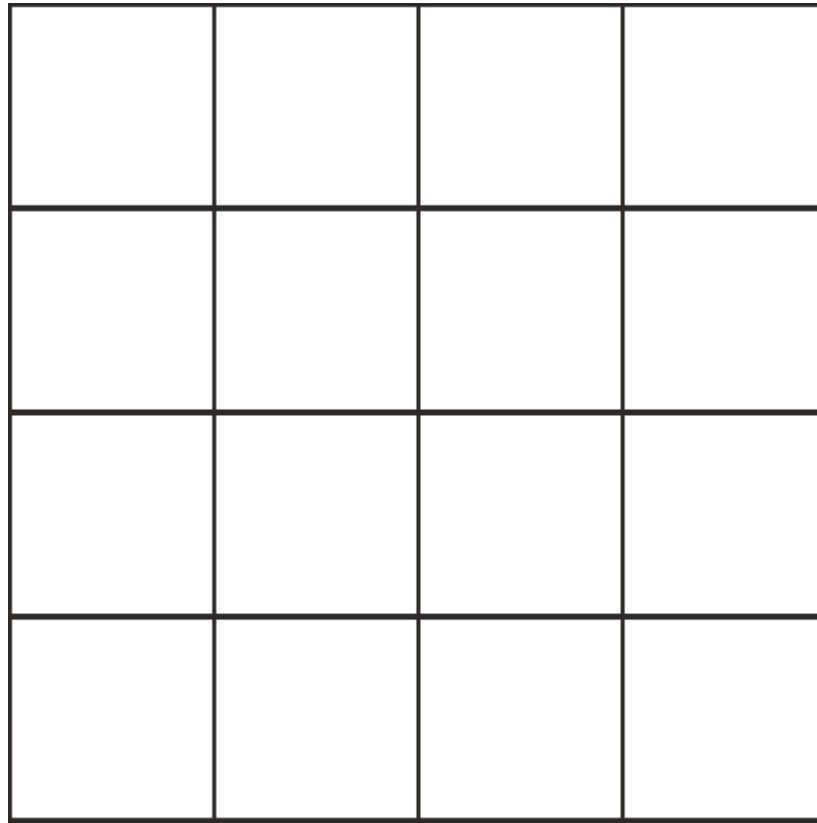
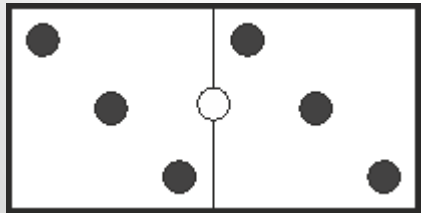
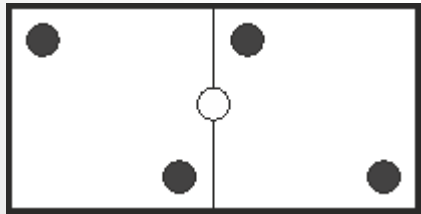
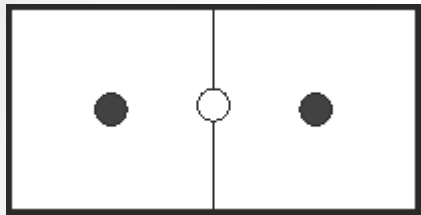
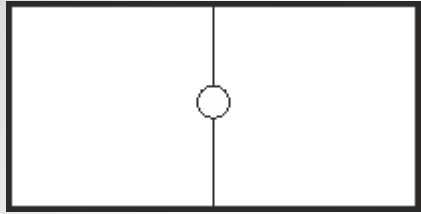
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EL DOMINÓ

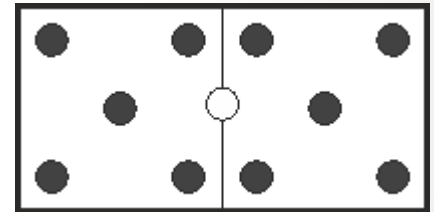
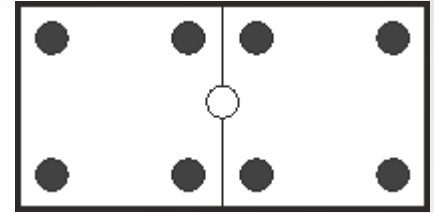


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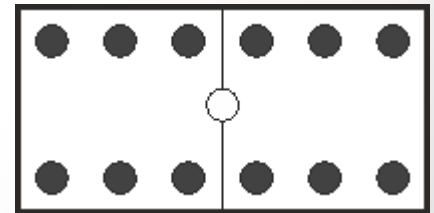


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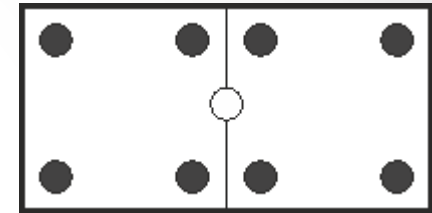
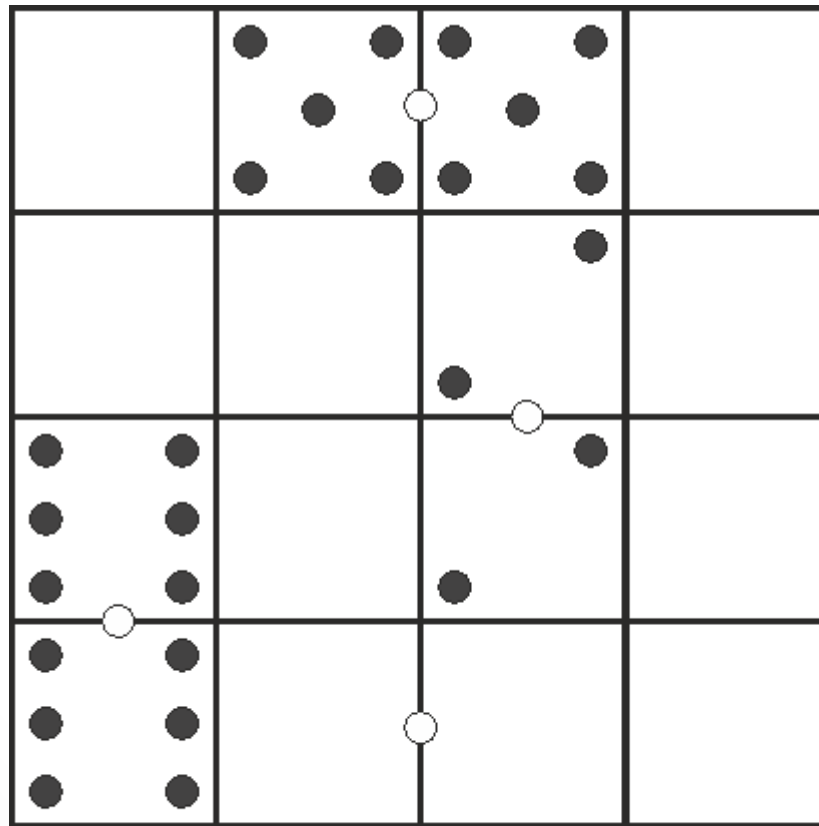
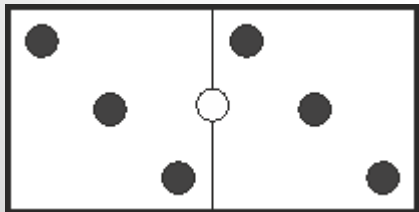
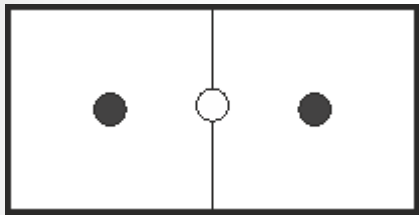
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EL DOMINÓ



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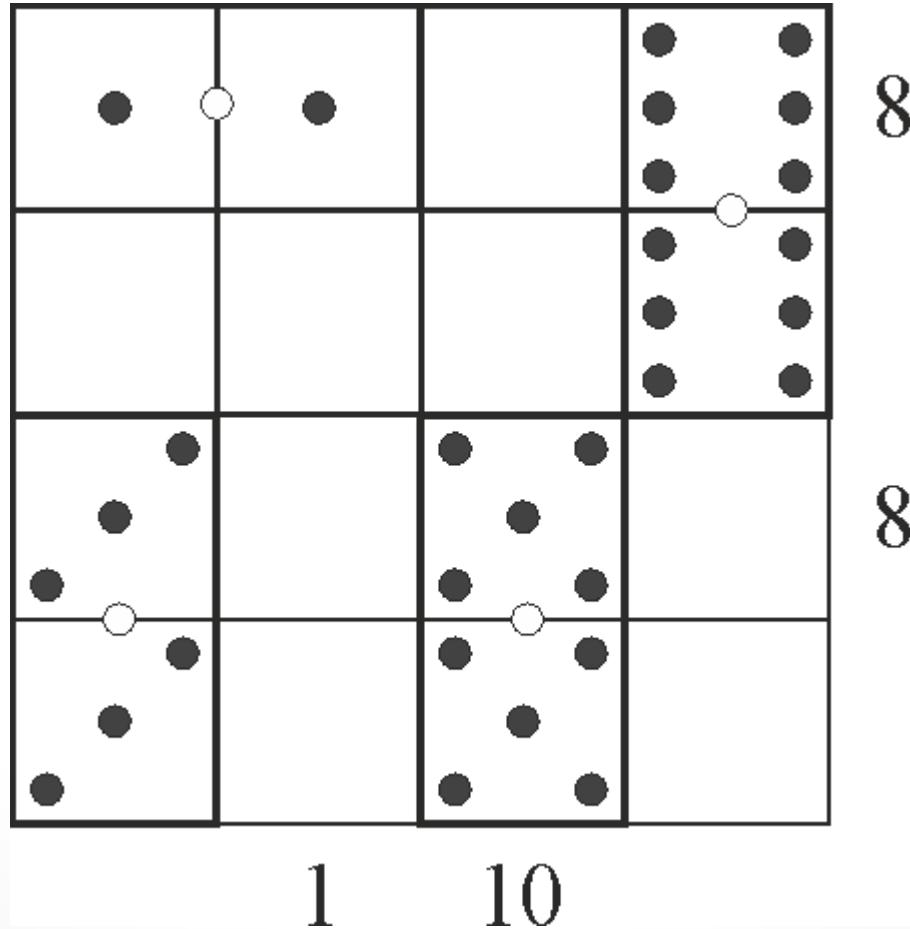
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EL DOMINÓ

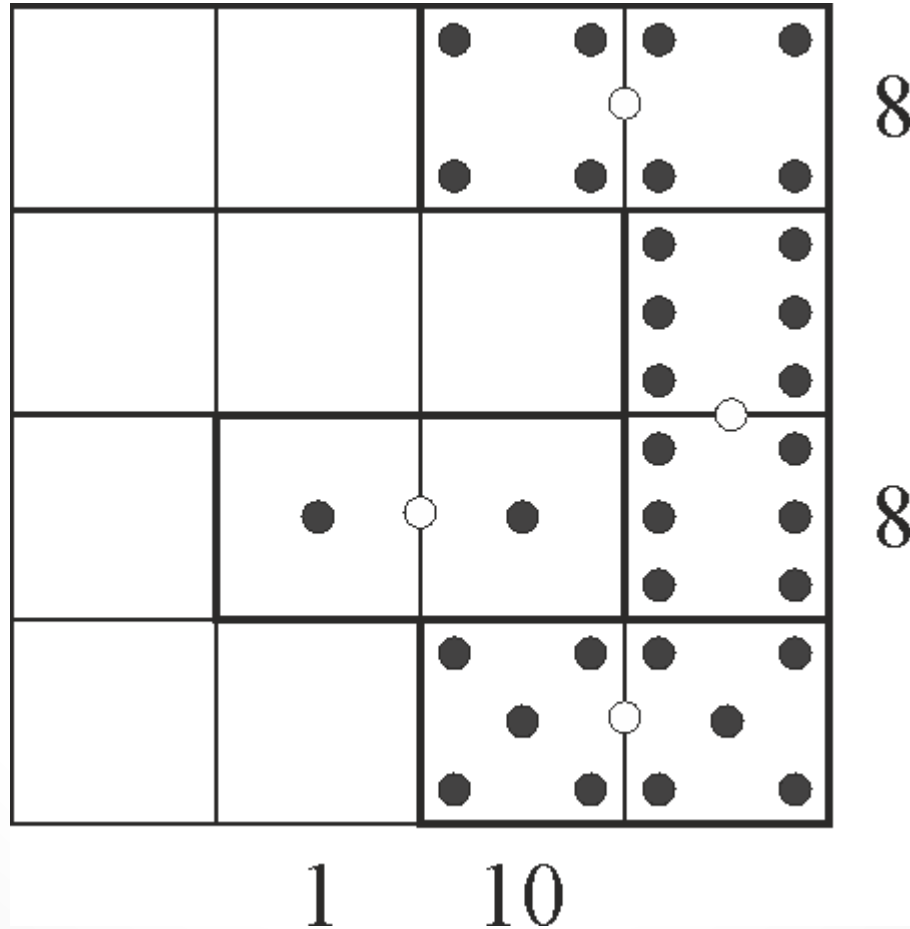
				8
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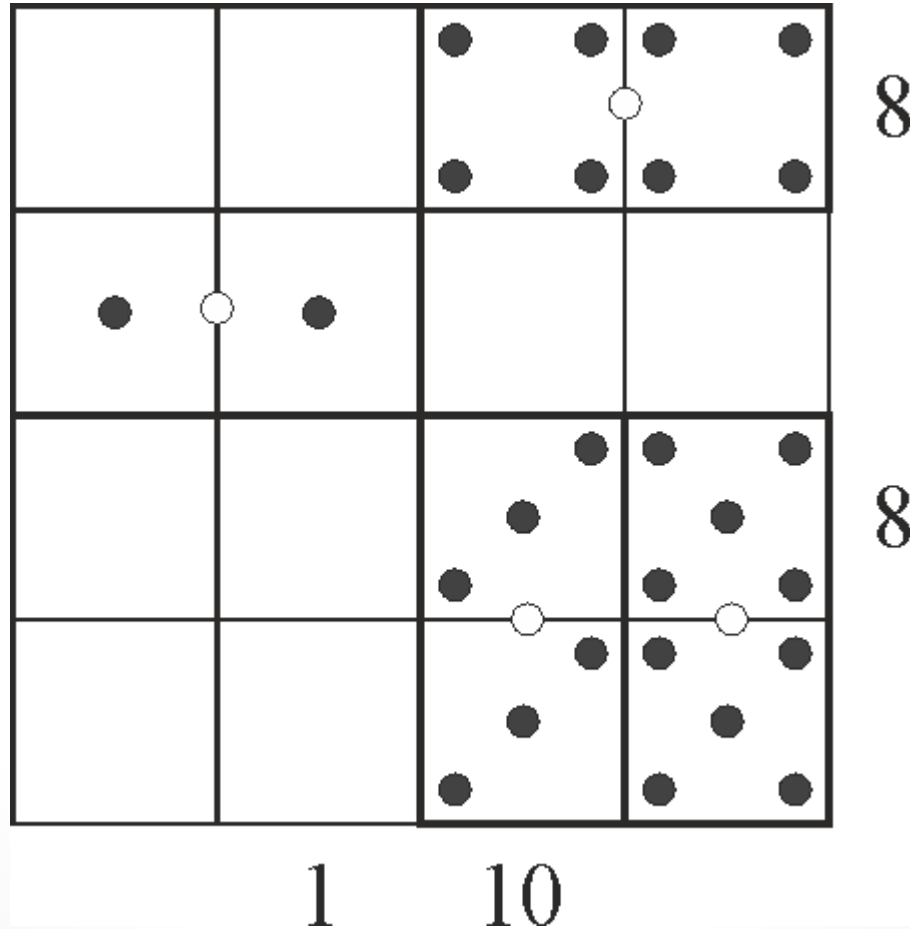
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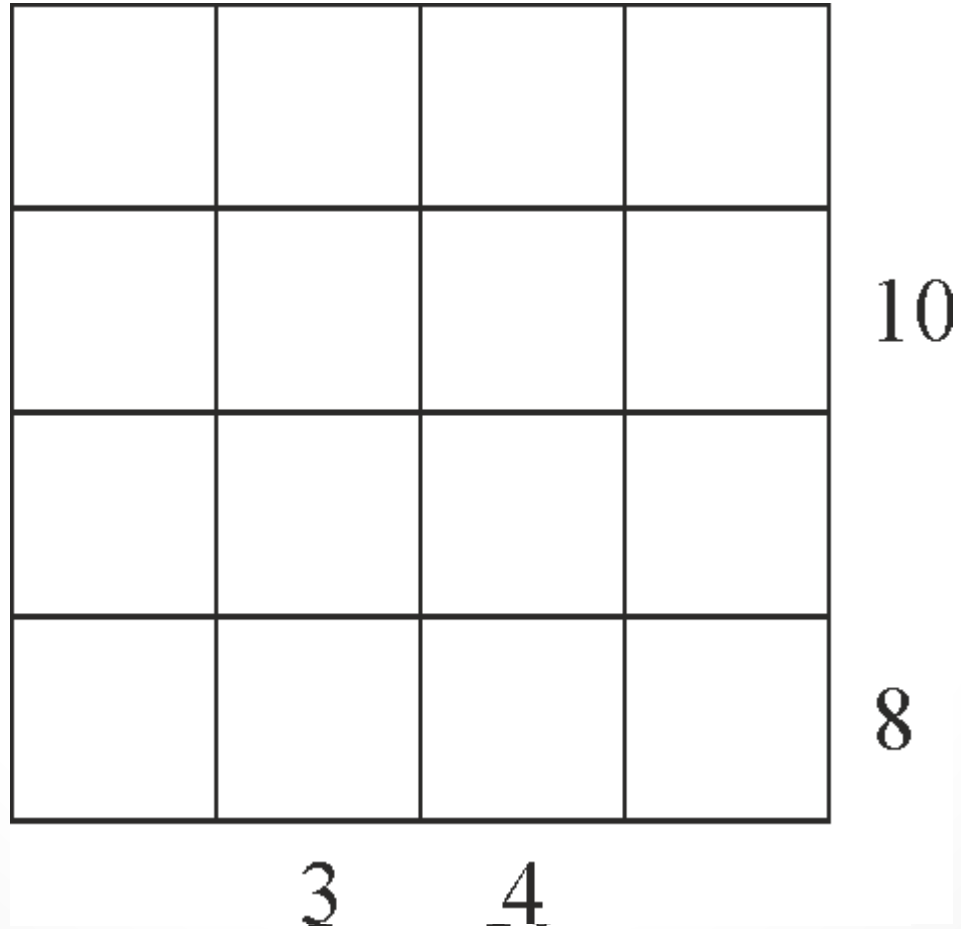
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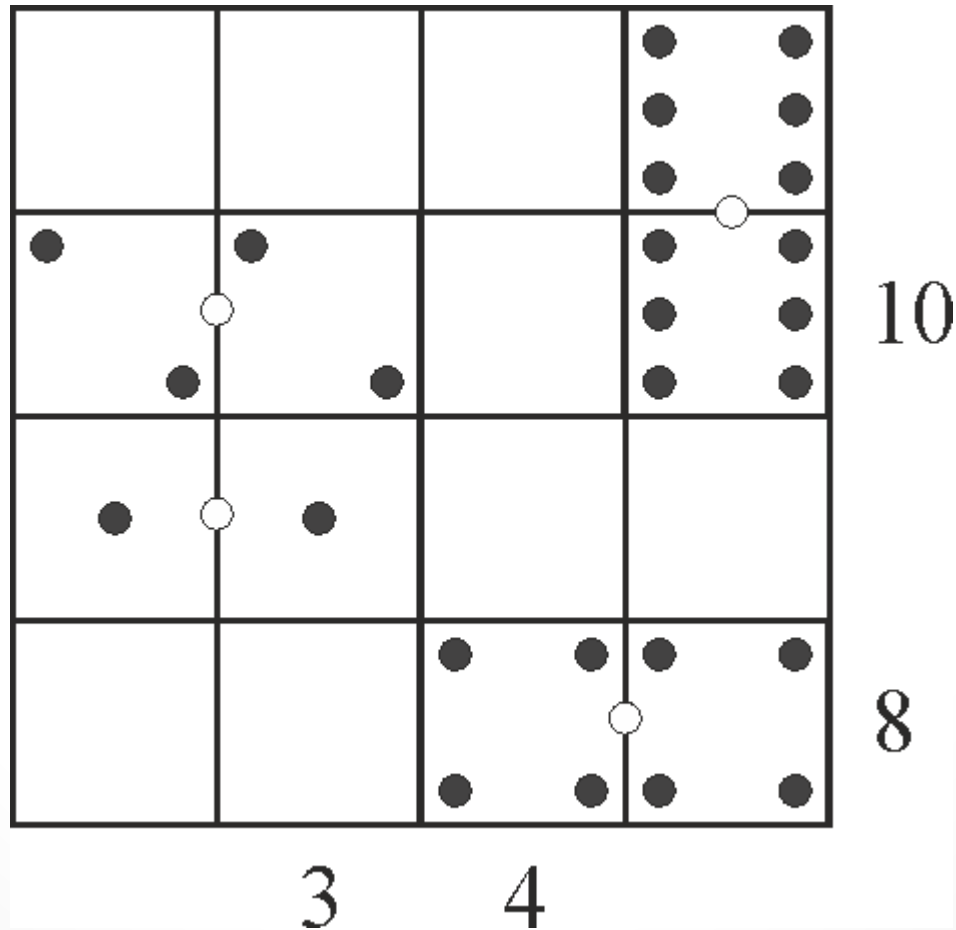
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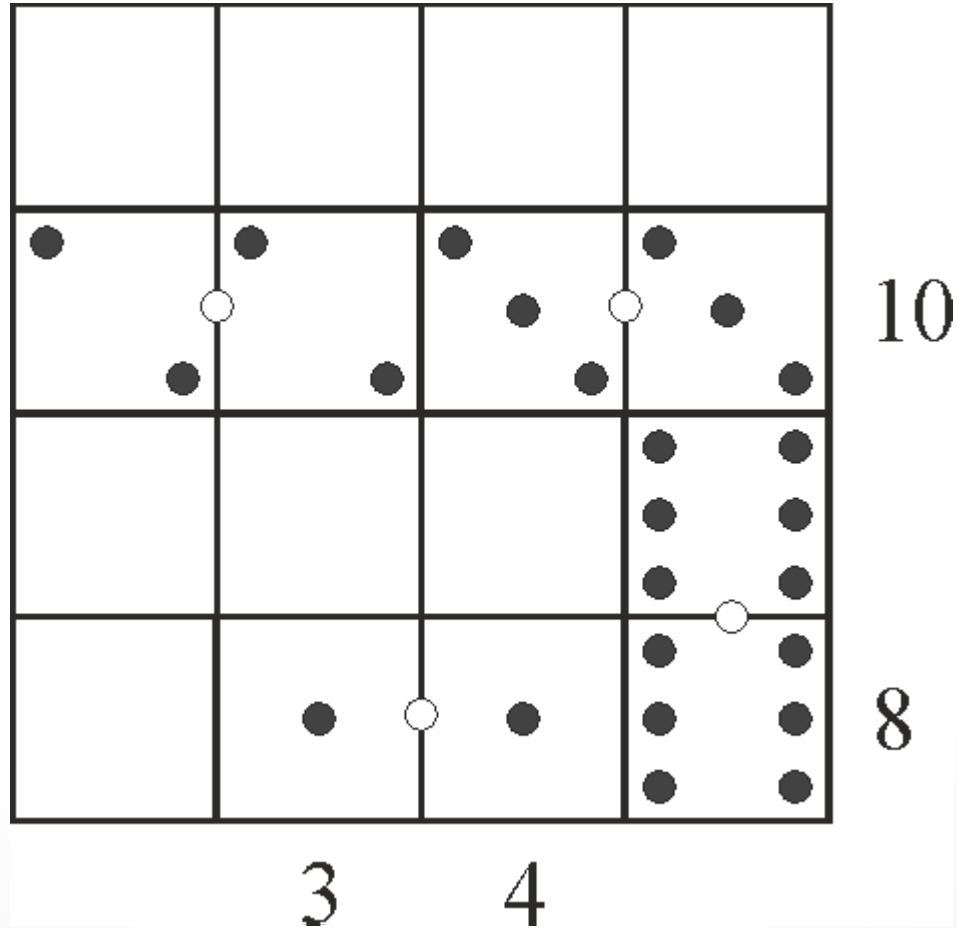
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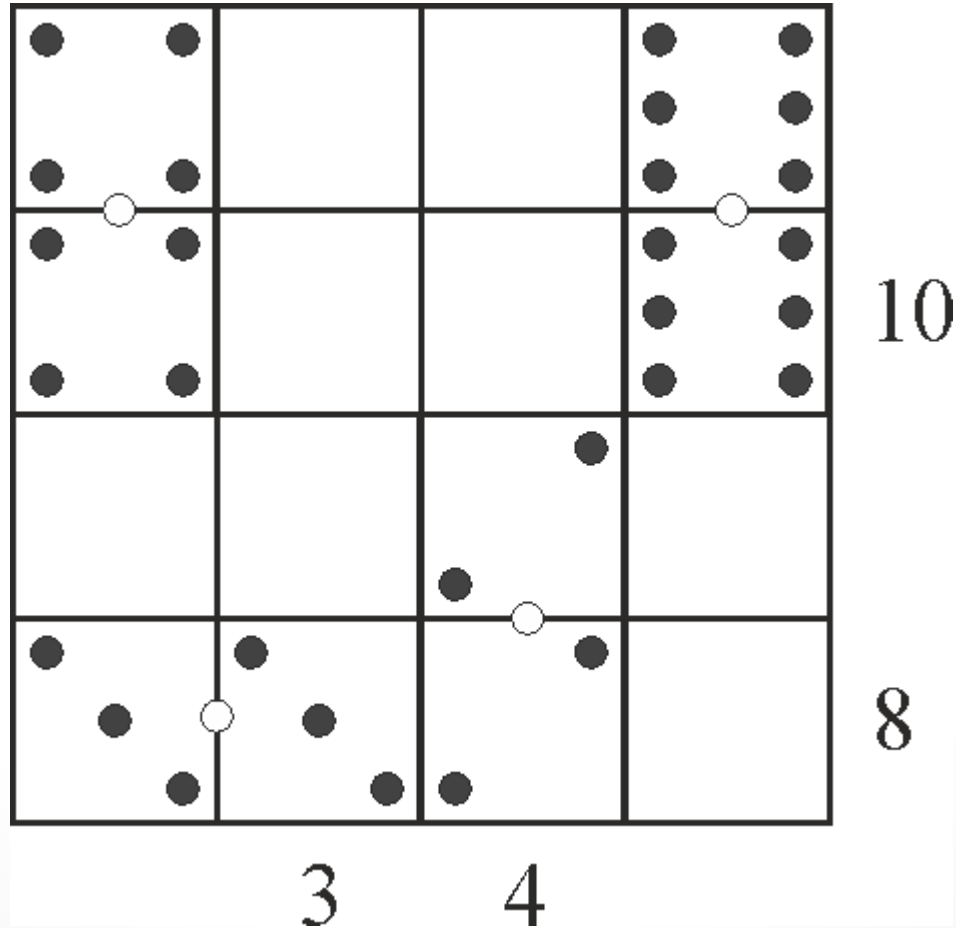
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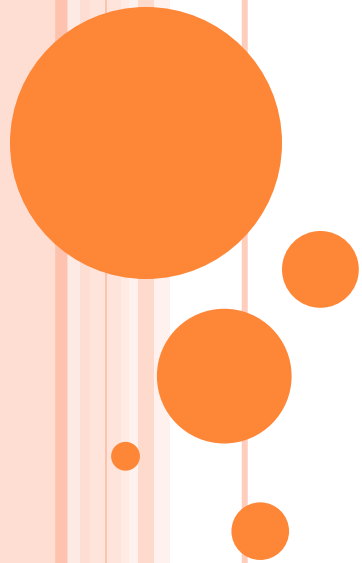


EL DOMINÓ



LOS CUATRO CUATROS

¿PODEMOS FORMAR,
POR EJEMPLO, EL 15, EL
20 O EL 60 UTILIZANDO
EXACTAMENTE CUATRO
CUATROS Y LAS
OPERACIONES BÁSICAS?

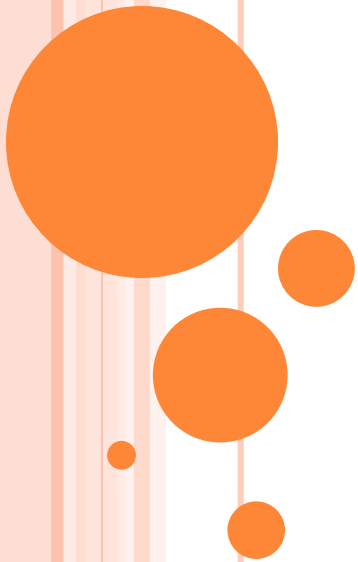


LOS CUATRO CUATROS

$$15 = 4 \cdot 4 - \frac{4}{4}$$

$$20 = 4 \cdot \left(4 + \frac{4}{4} \right)$$

$$60 = 44 + 4 \cdot 4$$



LOS CUATRO CUATROS

RETO:

¿UTILIZANDO
EXACTAMENTE CUATRO
CUATROS PODEMOS
FORMAR TODOS LOS
NÚMEROS DEL 0 AL 10?

LOS CUATRO CUATROS

$$0 = 4 + 4 - 4 - 4$$

$$3 = \frac{4 + 4 + 4}{4}$$

$$1 = \frac{44}{44}$$

$$4 = 4 + 4 \cdot (4 - 4)$$

$$2 = \frac{4}{4} + \frac{4}{4}$$

$$5 = \frac{4 \cdot 4 + 4}{4}$$

LOS CUATRO CUATROS

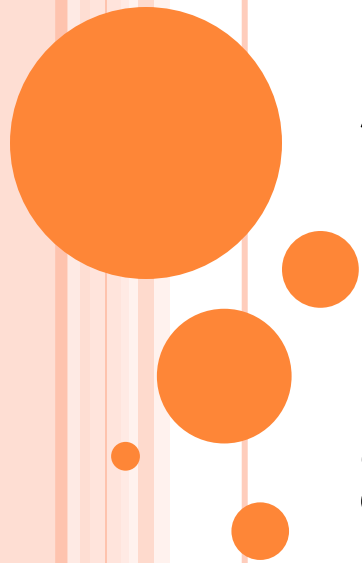
$$6 = 4 + \frac{4 + 4}{4}$$

$$9 = 4 + 4 + \frac{4}{4}$$

$$7 = \frac{44}{4} - 4$$

$$10 = \frac{44 - 4}{4}$$

$$8 = 4 + 4 + 4 - 4$$



Los palíndromos

Es una palabra o frase que se lee de la misma forma de izquierda a derecha o al revés.

Ejemplos

- ▶ La ruta natural
- ▶ Anita lava la tina
- ▶ A man, a plan, a canal, Panama

Completar

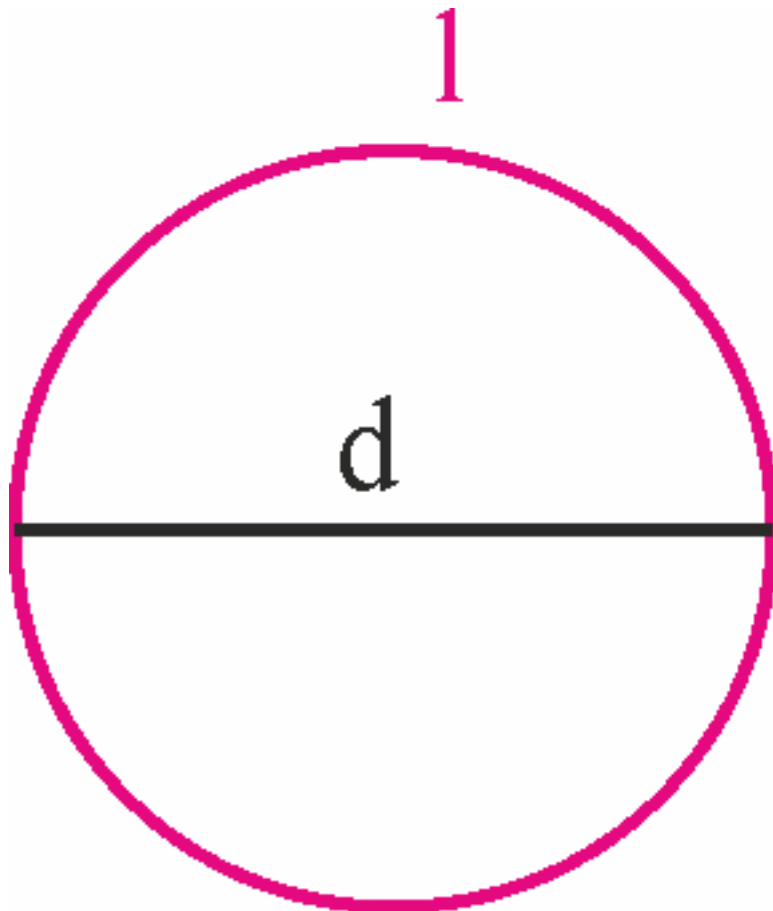
- ▶ Se van sus ...
- ▶ Senén té sis nens i ...
- ▶ No Lemon ...

Completar

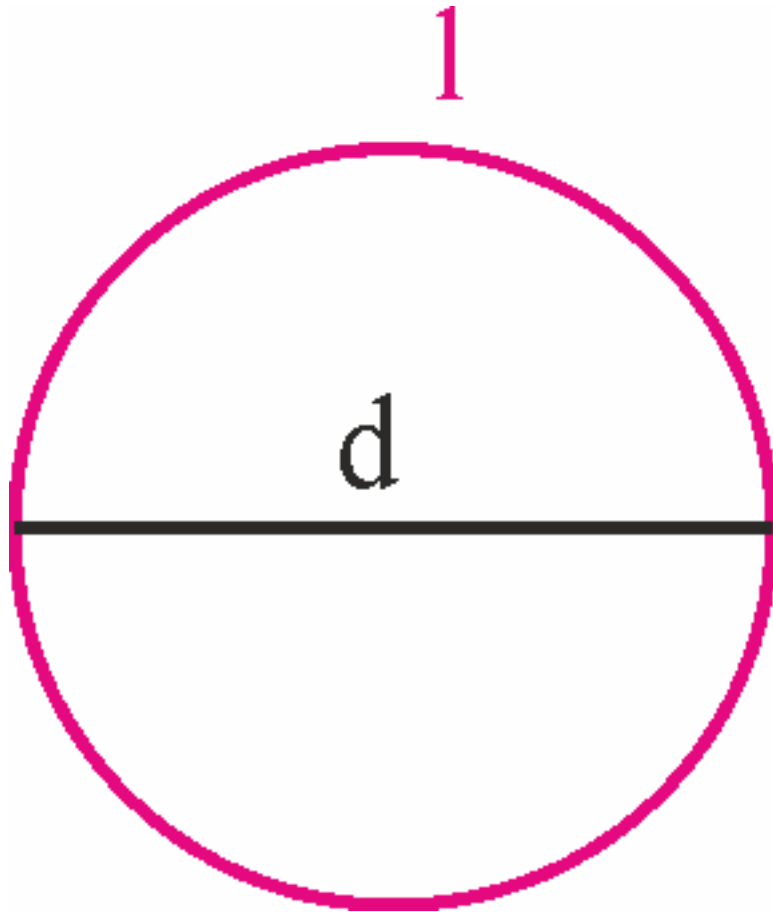
- ▶ Se van sus **naves**
- ▶ Senén té sis nens i **set nenes**
- ▶ No Lemon **no melon**

APROXIMACIÓN DE π

APROXIMACIÓ DE π



APROXIMACIÓ DE π



$$\frac{1}{d} = \pi$$

Aproximación de π



Aproximación de π



- ▶ $d = 11$ fichas
- ▶ $l = 34$ fichas
- ▶ $\pi = 34/11$
 $= 3,09$



Aproximación de π



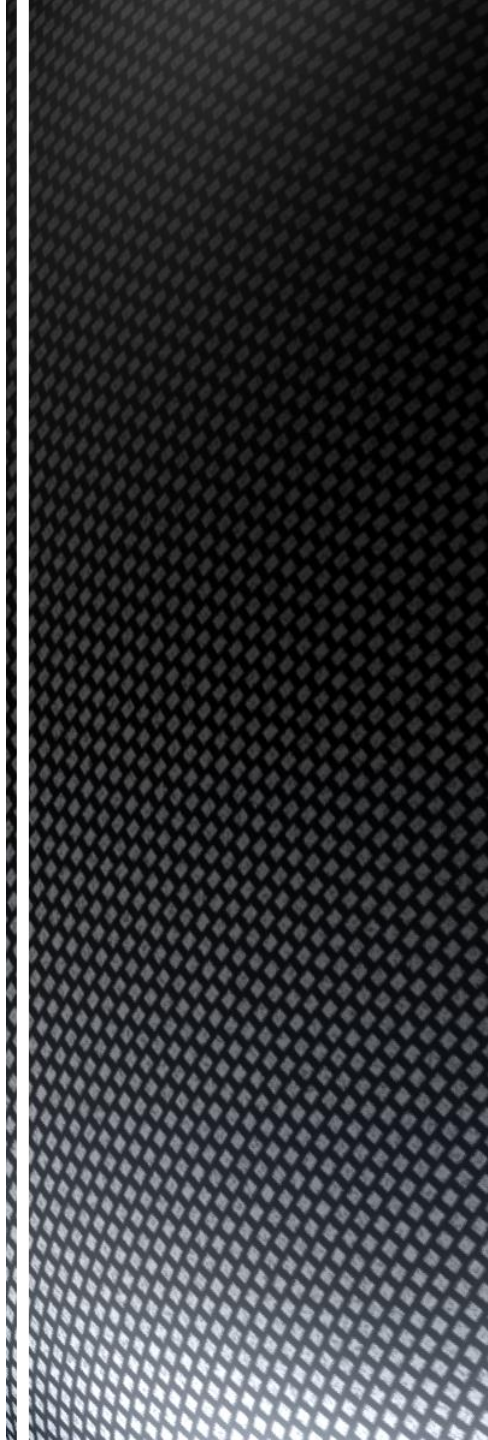
Aproximación de π



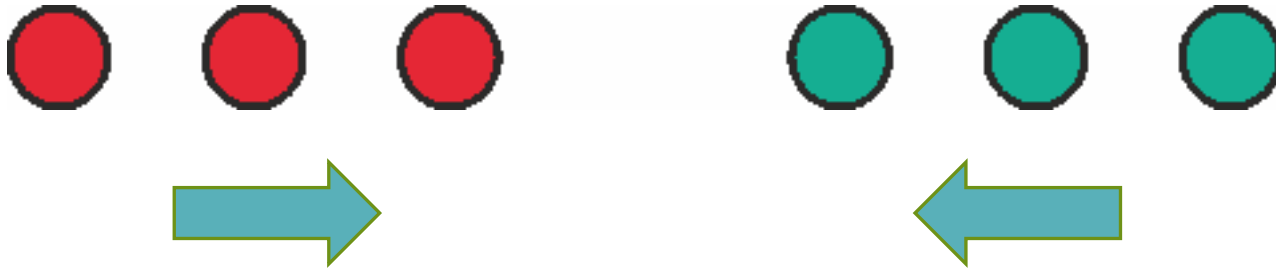
- ▶ $d = 3'48 \text{ m}$
- ▶ $l = 10'94 \text{ m}$
- ▶ $\pi = l/d = 3,143$



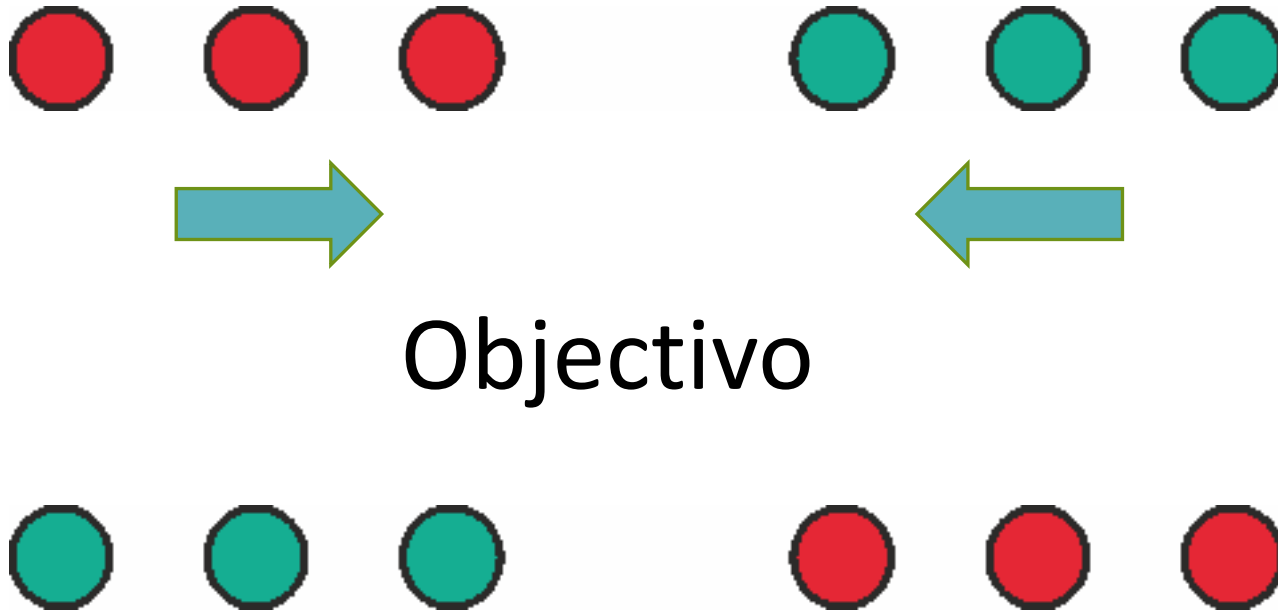
SALTO DE LA RANA



SALTO DE LA RANA



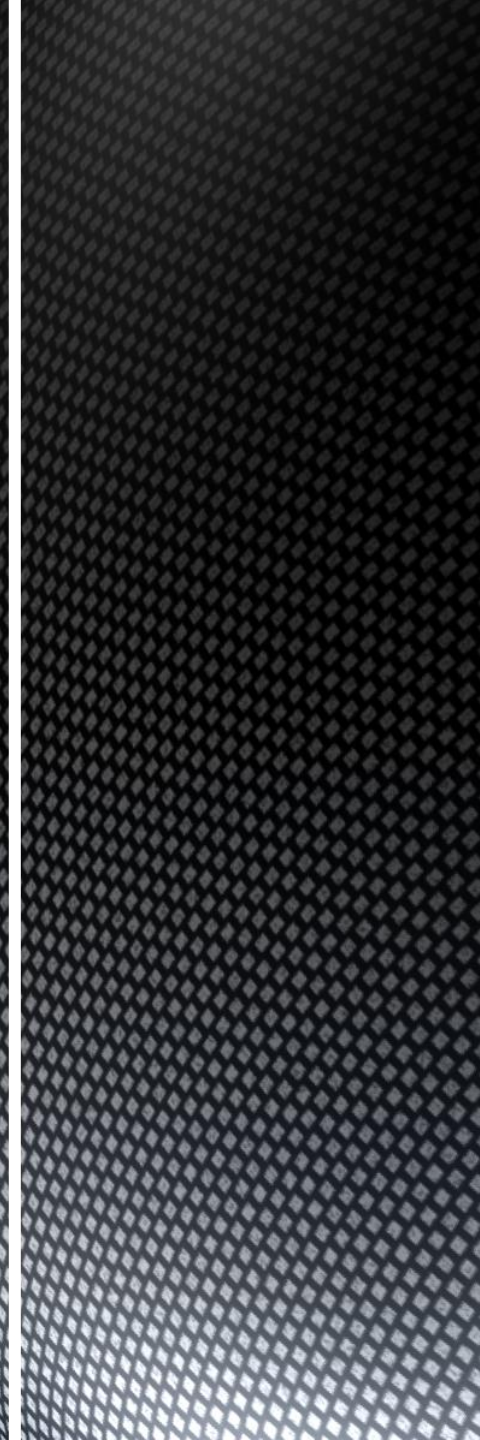
SALTO DE LA RANA



SALTO DE LA RANA



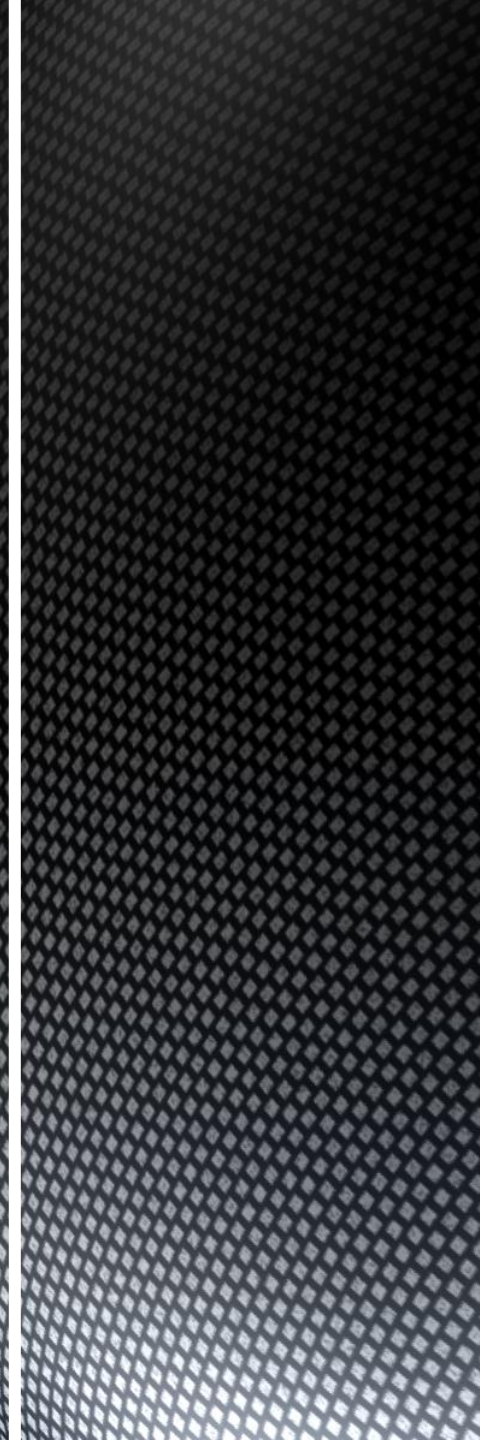
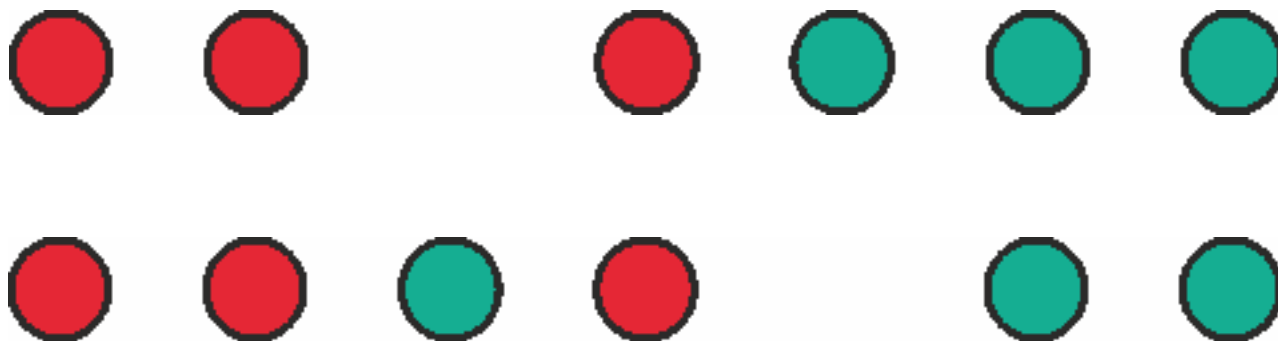
Normas



SALTO DE LA RANA



Normas



SALTO DE LA RANA



Se tiene que evitar:





ANAMORFISMO

EN MATEMÁTICAS NO SE DEBEN
DESPRECIAR NI LOS ERRORES
MÁS DIMINUTOS

LA ESENCIA DE LAS MATEMÁTICAS
RESIDE EN SU LIBERTAT

Gracias por su atención

JOAN FOLGUERA FARRÉ
E-mail: jfolgue2@xtec.cat
MIEMBRO DEL MMACA

