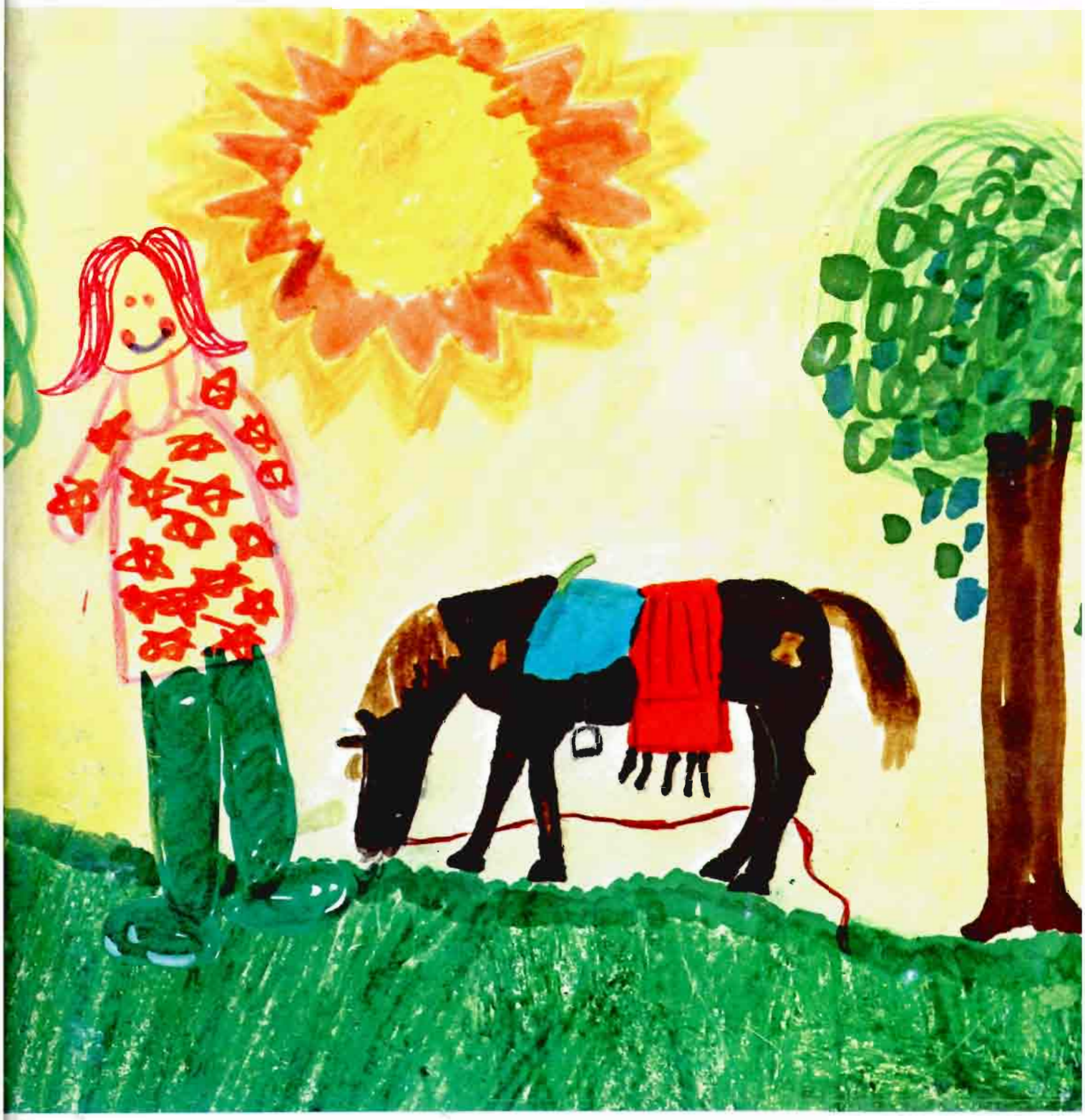
answers & annotations

Individualized Computation

e_1



CDA math

ROBERT W. WIRTZ

Cover Art
The Open Intermediate class of Patricia Faul and Howard McCombs at R.H. Down School

Art Staff
LORENZO ANDRE

Editor and General Manager
ROBERT BECK

Art and Production Manager
LIESELOTTE ESSER

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Suite 414 • 1211 Connecticut Ave., N.W.
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How many do you remember? ¿Cuantos recuerda usted?

The children may want to use this review page over and over and time their work. They may want to keep graphs of their progress. Page 45 in Developing Insights may be duplicated for this purpose.

0 + 0 = 0	1 + 0 = 1	2 + 0 = 2	3 + 0 = 3	4 + 0 = 4	5 + 0 = 5	6 + 0 = 6	7 + 0 = 7	8 + 0 = 8	9 + 0 = 9
0 + 1 = 1	1 + 1 = 2	2 + 1 = 3	3 + 1 = 4	4 + 1 = 5	5 + 1 = 6	6 + 1 = 7	7 + 1 = 8	8 + 1 = 9	9 + 1 = 10
0 + 2 = 2	1 + 2 = 3	2 + 2 = 4	3 + 2 = 5	4 + 2 = 6	5 + 2 = 7	6 + 2 = 8	7 + 2 = 9	8 + 2 = 10	9 + 2 = 11
0 + 3 = 3	1 + 3 = 4	2 + 3 = 5	3 + 3 = 6	4 + 3 = 7	5 + 3 = 8	6 + 3 = 9	7 + 3 = 10	8 + 3 = 11	9 + 3 = 12
0 + 4 = 4	1 + 4 = 5	2 + 4 = 6	3 + 4 = 7	4 + 4 = 8	5 + 4 = 9	6 + 4 = 10	7 + 4 = 11	8 + 4 = 12	9 + 4 = 13
0 + 5 = 5	1 + 5 = 6	2 + 5 = 7	3 + 5 = 8	4 + 5 = 9	5 + 5 = 10	6 + 5 = 11	7 + 5 = 12	8 + 5 = 13	9 + 5 = 14
0 + 6 = 6	1 + 6 = 7	2 + 6 = 8	3 + 6 = 9	4 + 6 = 10	5 + 6 = 11	6 + 6 = 12	7 + 6 = 13	8 + 6 = 14	9 + 6 = 15
0 + 7 = 7	1 + 7 = 8	2 + 7 = 9	3 + 7 = 10	4 + 7 = 11	5 + 7 = 12	6 + 7 = 13	7 + 7 = 14	8 + 7 = 15	9 + 7 = 16
0 + 8 = 8	1 + 8 = 9	2 + 8 = 10	3 + 8 = 11	4 + 8 = 12	5 + 8 = 13	6 + 8 = 14	7 + 8 = 15	8 + 8 = 16	9 + 8 = 17
0 + 9 = 9	1 + 9 = 10	2 + 9 = 11	3 + 9 = 12	4 + 9 = 13	5 + 9 = 14	6 + 9 = 15	7 + 9 = 16	8 + 9 = 17	9 + 9 = 18

How many do you remember? Please note that all of the products to the right of the heavy line are more than 30 and many of these "hard" ones are repeats (reciprocals). ¿Cuantos recuerda usted?

0 x 0 = 0	1 x 0 = 0	2 x 0 = 0	3 x 0 = 0	4 x 0 = 0	5 x 0 = 0	6 x 0 = 0	7 x 0 = 0	8 x 0 = 0	9 x 0 = 0
0 x 1 = 0	1 x 1 = 1	2 x 1 = 2	3 x 1 = 3	4 x 1 = 4	5 x 1 = 5	6 x 1 = 6	7 x 1 = 7	8 x 1 = 8	9 x 1 = 9
0 x 2 = 0	1 x 2 = 2	2 x 2 = 4	3 x 2 = 6	4 x 2 = 8	5 x 2 = 10	6 x 2 = 12	7 x 2 = 14	8 x 2 = 16	9 x 2 = 18
0 x 3 = 0	1 x 3 = 3	2 x 3 = 6	3 x 3 = 9	4 x 3 = 12	5 x 3 = 15	6 x 3 = 18	7 x 3 = 21	8 x 3 = 24	9 x 3 = 27
0 x 4 = 0	1 x 4 = 4	2 x 4 = 8	3 x 4 = 12	4 x 4 = 16	5 x 4 = 20	6 x 4 = 24	7 x 4 = 28	8 x 4 = 32	9 x 4 = 36
0 x 5 = 0	1 x 5 = 5	2 x 5 = 10	3 x 5 = 15	4 x 5 = 20	5 x 5 = 25	6 x 5 = 30	7 x 5 = 35	8 x 5 = 40	9 x 5 = 45
0 x 6 = 0	1 x 6 = 6	2 x 6 = 12	3 x 6 = 18	4 x 6 = 24	5 x 6 = 30	6 x 6 = 36	7 x 6 = 42	8 x 6 = 48	9 x 6 = 54
0 x 7 = 0	1 x 7 = 7	2 x 7 = 14	3 x 7 = 21	4 x 7 = 28	5 x 7 = 35	6 x 7 = 42	7 x 7 = 49	8 x 7 = 56	9 x 7 = 63
0 x 8 = 0	1 x 8 = 8	2 x 8 = 16	3 x 8 = 24	4 x 8 = 32	5 x 8 = 40	6 x 8 = 48	7 x 8 = 56	8 x 8 = 64	9 x 8 = 72
0 x 9 = 0	1 x 9 = 9	2 x 9 = 18	3 x 9 = 27	4 x 9 = 36	5 x 9 = 45	6 x 9 = 54	7 x 9 = 63	8 x 9 = 72	9 x 9 = 81

PUZZLES AND PROBLEMS
ROMBECABEZAS y PROBLEMAS

Chain Reactions — Reacción en Cadena

5 +3 8 −4 4 +6 10 +9 19 +2 21 −3 18 −9 9 +1 10

Correctly followed, the chain should end

3 +3 6 +3 9 +3 12 +3 15 +3 18 +3 21 +3 24 +3 27

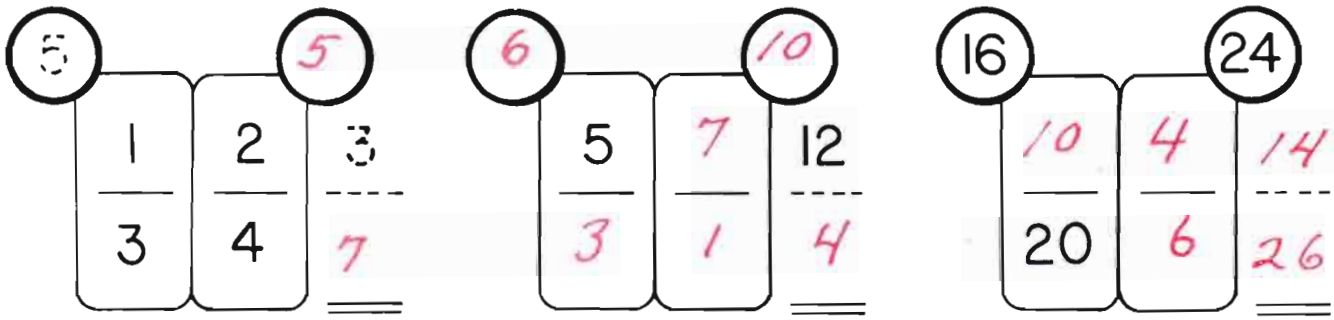
with the number at the far right.

30 −3 27 −3 24 −3 21 −3 18 −3 15 −3 12 −3 9 −3 6

6 +7 13 −8 5 +9 14 −7 7 +8 15 −9 6 +8 14 −8 6

1 +2 3 +3 6 +4 10 +5 15 +6 21 +7 28 +8 36 +9 45

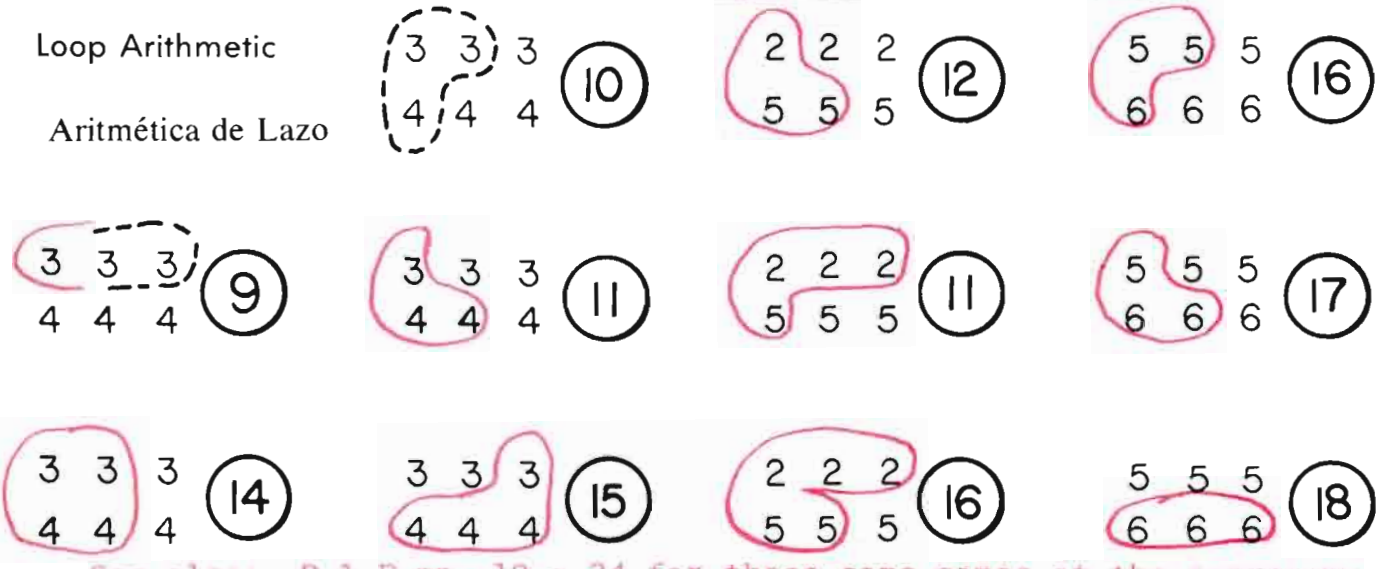
Domino Puzzles ..... — Rompecabezas de Dóminos



4 + 6 = 10 8 + 8 = 16 30 + 10 = 40

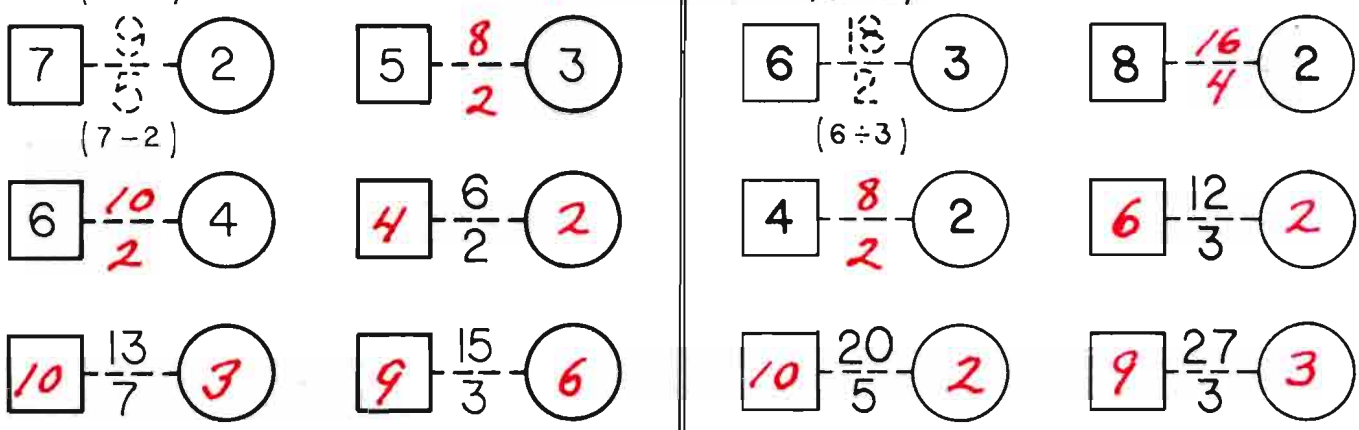
The children may want to try these with real dominoes. See also: Drill and Practice pp. 88 - 93

Loop Arithmetic — Aritmética de Lazo



See also: D & P pp. 19 - 24 for these same games at the representational level.

Sumar --- y --- Restar (7 + 2) | Adding ----and---- Subtracting | Here the child is to do both operations indicated, one above the broken line, one below. | Multiplying ----and---- Dividing (6 × 3) | Multiplicar --- y --- Dividir

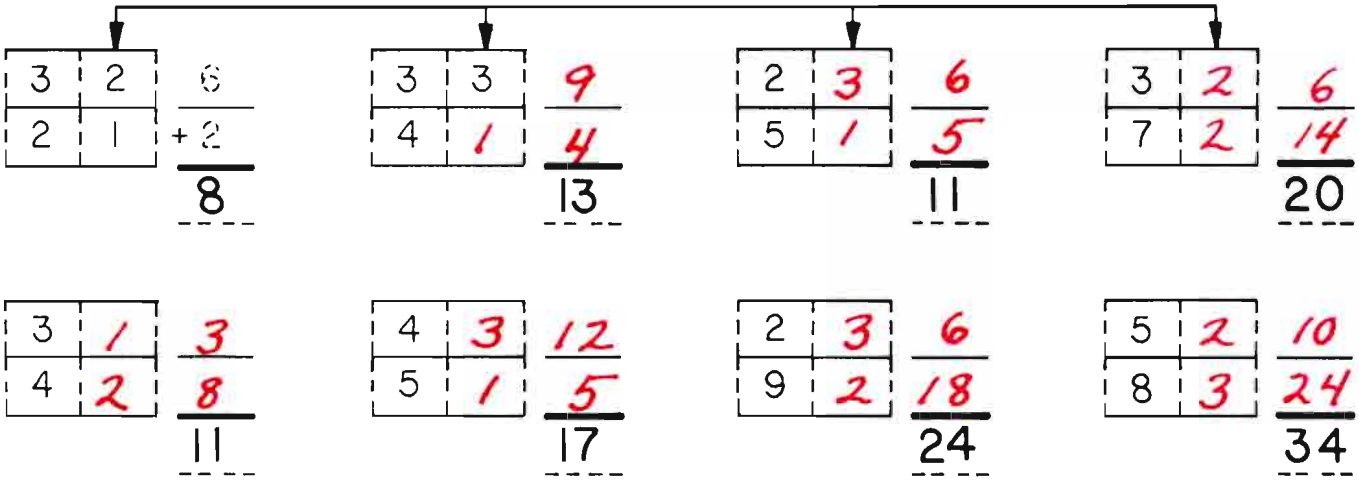


Multiplying and Adding

..... using smallest numbers

Multiplicar y Sumar

..... usando los números más pequeños

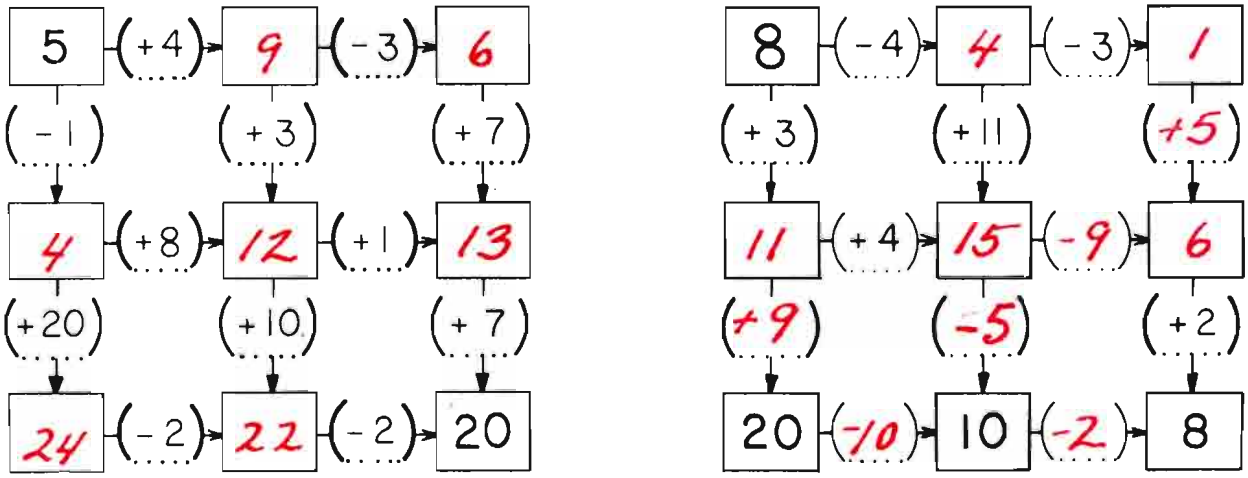


TWO-WAY Chain Reactions

Reacción en cadena en DOS MANERAS

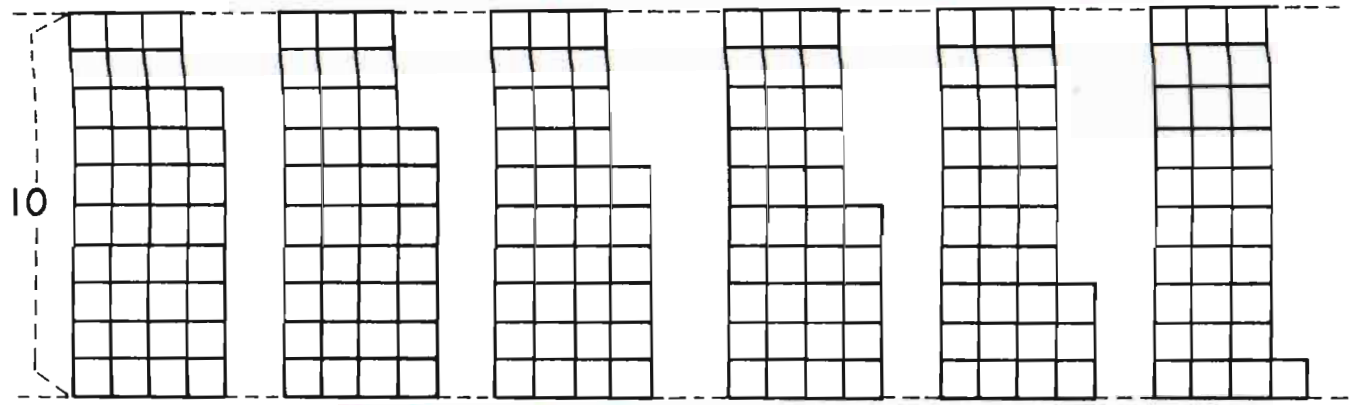
Down and to the right

Abajo y a la derecha

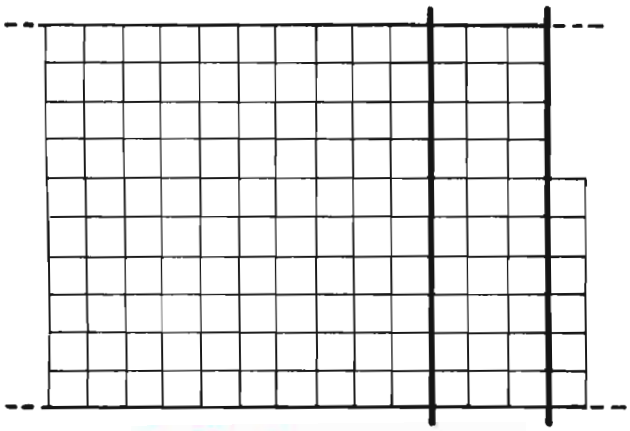


"HOW MANY ?" "¿CUANTOS?"

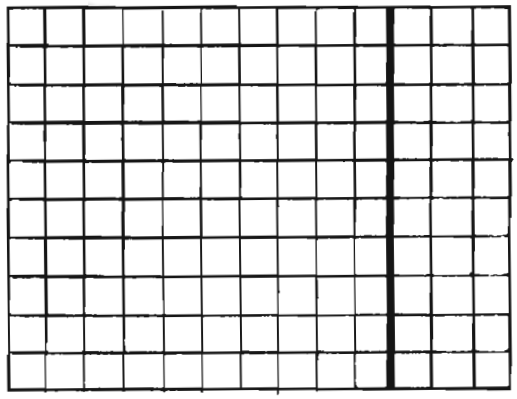
If counting is needed, encourage guessing first.
See also: D.I. p. 49 - 59 for more practice.



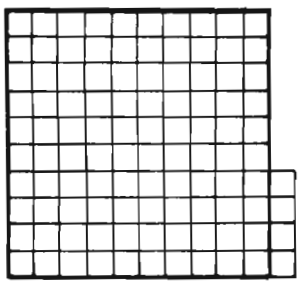
A 3.8 B 3.7 C 3.6 D 3.5 3.3 E 3.1



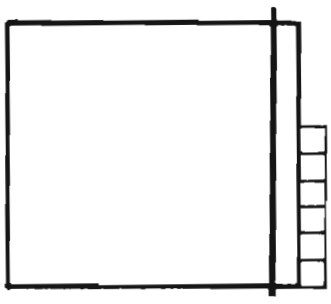
F 1.3.6



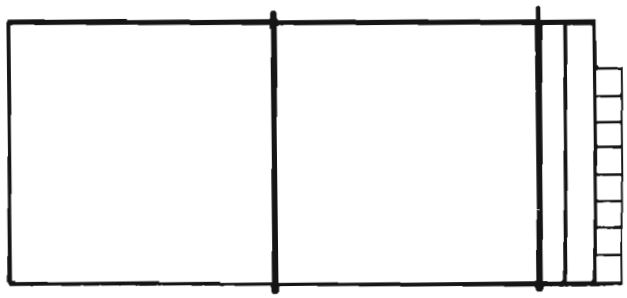
G 1.3.0



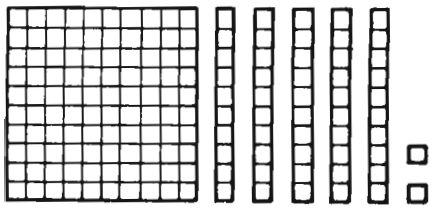
H 1.0.4



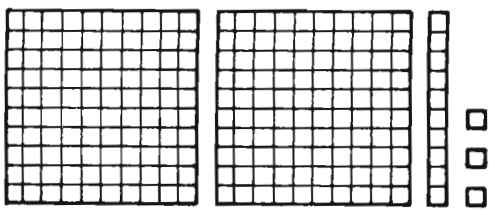
I 1.1.6



A 2.2.8



B 1.5.2

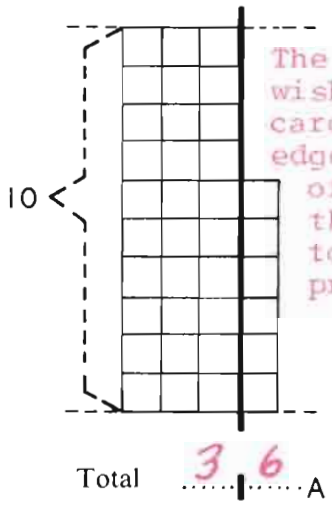


2.1.3

	A	B	C	D
E	228	37	31	282
F	22	136	45	35
G	38	47	130	138
H	104	26	36	140
I	206	152	72	116

"HOW MANY?" . . .

"¿CUANTOS?"

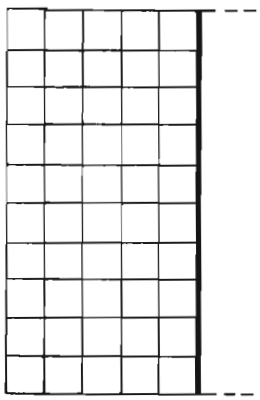


The child may wish to use a card or straight edge to block off parts of the diagram to work the problems.

Total 36 A

36 − 6 = 30 B	36 + 4 = 40 C	36 + 10 = 46
36 + 14 = 50 D	14 + 36 = 50 E	46 + 4 = 50 F
29 + 7 = 36	19 + 17 = 36 G	27 + 19 = 46 H

See also: D & P p. 94 - 96
p. 124 - 135



Total 50 A

20 + 30 = 50 B	50 − 10 = 40 C	50 + 20 = 70
25 + 25 = 50 D	50 − 25 = 25 E	50 + 25 = 75 F
50 + 50 = 100 B	50 − 6 = 44	50 − 16 = 34 C

FENCING

CERCANDO

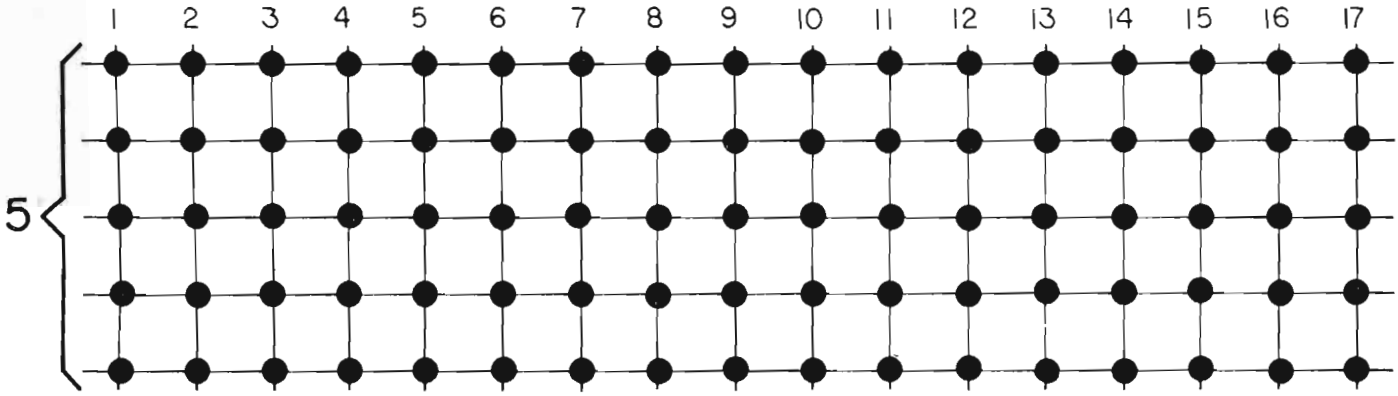
7's

3	2	5	4
2	4	3	2
2	3	1	1
3	1	4	2

6's

3	3	2	4
1	4	1	2
2	2	5	1
5	1	4	2

	A	B	C
D	50	100	34
E	25	30	50
F	36	50	75
G	100	36	40
H	46	50	40



Please complete the tables Favor de completar las tablas

0 × 5	1 × 5	2 × 5	3 × 5	4 × 5	5 × 5	6 × 5	7 × 5	8 × 5	9 × 5	10 × 5	11 × 5	12 × 5	13 × 5
0	5	10	15	20	25	30	35	40	45	50	55	60	65
A	B	C	D	E	F	G	H	I	A	B	C	D	

1 × 5	2 × 5	4 × 5	8 × 5	16 × 5
5	10	20	40	80
				F

4 × 5	5 × 5	9 × 5	10 × 5
20	25	45	50

3 × 5	6 × 5	9 × 5
15	30	45

5 × 3	5 × 4	5 × 7	5 × 11
15	20	35	55

5 × 10	5 × 9	5 × 8	5 × 7
50	45	40	35

5 × 2	5 × 3	5 × 5	5 × 8
10	15	25	40

The diagram at the top may help solve the problems.

2 × 5	5 × 5	5 × 6	5 × 1	10 × 5	11 × 5	5 × 4	5 × 7	12 × 5	13 × 5	5 × 3	5 × 8	6 × 5	9 × 5
10	25	30	5	50	55	20	35	60	65	15	40	30	45

Please extend the patterns as indicated Favor de extender las muestras

2 . 4 . 6 . 8 . 10 . 12 . 14 . 16 . 18 . 20 .
B

1 . 3 . 5 . 7 . 9 . 11 . 13 . 15 . 17 . 19 .
C

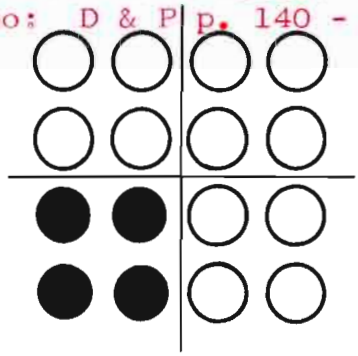
3 . 7 . 11 . 15 . 19 . 23 . 27 . 31 . 35 . 39 .
E

27 . 24 . 21 . 18 . 15 . 12 . 9 . 6 . 3 . 0 .

1 . 1 . 2 . 3 . 5 . 8 . 13 . 21 . 34 . 55 .

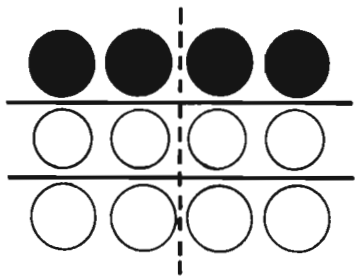
	A	B	C	D
E	20	10	19	15
F	80	50	25	60
G	45	5	9	30
H	0	35	55	13
I	40	13	10	35

Chalkboard, flannel board or poker chips may help set up this page.
Cookies also work well.
See also: D & P p. 140 - 142



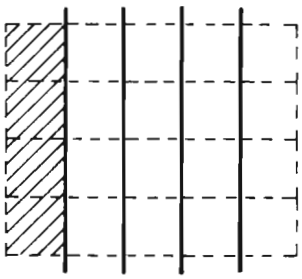
16 Total

$\frac{1}{4}$ of 16 = 4 (A)
$\frac{3}{4}$ of 16 = 12 (B)
$\frac{2}{4}$ of 16 = 8 (F)
$\frac{1}{2} \times 16 = 8$ (D)



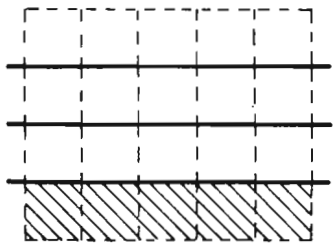
12 Total

$\frac{1}{3}$ of 12 = 4 (C)
$\frac{2}{3}$ of 12 = 8 (D)
$\frac{3}{3} \times 12 = 12$ (E)
$\frac{1}{2} \times 12 = 6$ (F)



20 G Total

$\frac{1}{5}$ of 20 = 4 (H, I)
$\frac{3}{5} \times 20 = 12$ (J)
$\frac{2}{5} \times 20 = 8$ (A, B)
$\frac{4}{5} \times 20 = 16$ (A, C)

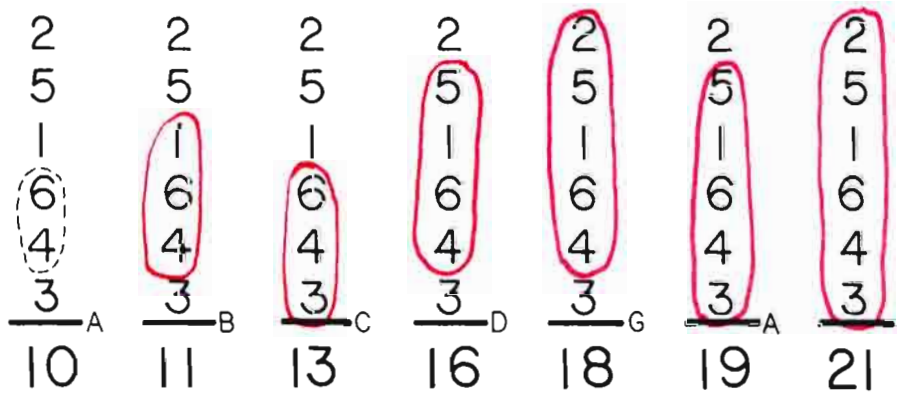


20 D Total

$\frac{1}{4} \times 20 = 5$ (D, E)
$\frac{2}{4} \times 20 = 10$ (D, F)
$\frac{3}{4} \times 20 = 15$ (D, G)
$\frac{1}{2} \times 20 = 10$ (D, F)

Please loop "Neighbors" whose sum is given

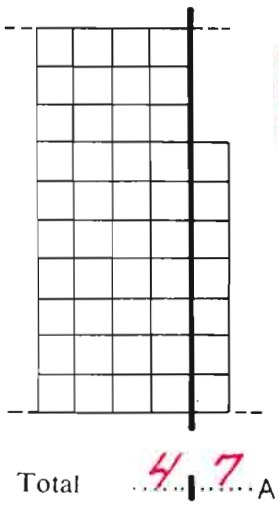
Favor de poner un lazo a los números "Vecinos"



	A	B	C	D
E	6,4	12	6,4 3	5
F	4	8	10	6
G	25 1,64	20	25 1,64	15
H	5,16 4,3	1,6 4	4	20
I	8	4	25 1	5,1 6,4
J	20	10	16	8

"HOW MANY?"

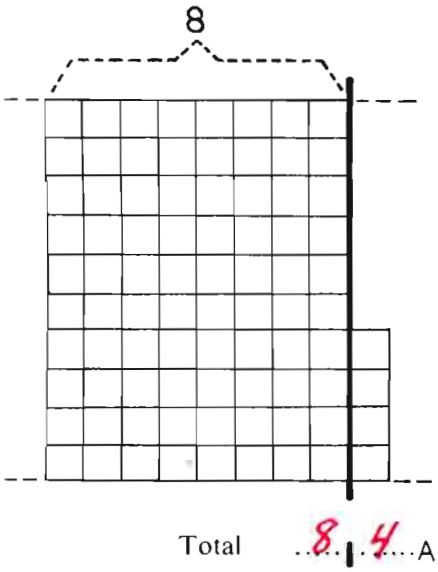
"¿CUANTOS?"



Total 47 A

See also:
D & P
p. 149-165

47 − 7 = 40	47 − 8 = 39 B	50 − 3 = 47 C
47 − 17 = 30 D	47 − 18 = 29 E	47 − 28 = 19 F
30 + 17 = 47	29 + 18 = 47 G	19 + 28 = 47 H



Total 84 A

90 − 6 = 84 B	84 − 4 = 80	84 − 6 = 78 D
84 − 14 = 70	84 − 16 = 68 E	84 − 80 = 4
84 + 6 = 90	84 + 16 = 100	100 − 16 = 84

Please use the smallest whole numbers you can in the boxes

Favor de poner en cada cuadro el número entero más pequeño que usted pueda.

9	3	1	
2	0	2	20

Yes

9	3	1	
1	✗	8	20

No

9	3	1	
0	2	2	8 C

9	3	1	
1	1	1	13

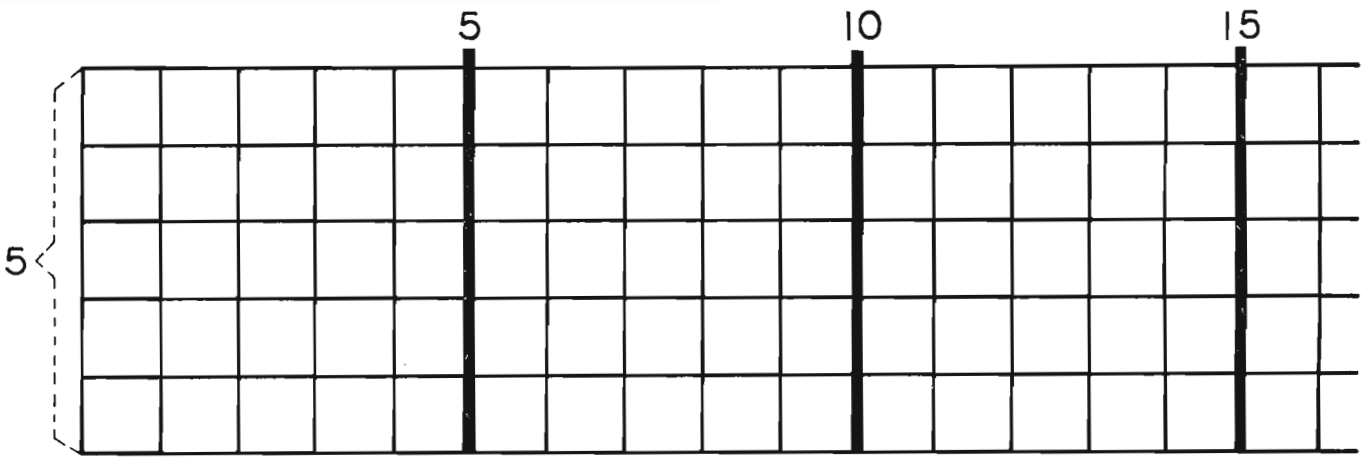
9	3	1	
2	0	0	18

9	3	1	
1	2	2	17 F

9	3	1	
2	1	0	21 G

9	3	1	
2	2	2	26 H

	A	B	C
D	30	84	78
E	68	39	29
F	1,2,2	19	47
G	47	2,1,0	0,2,2
H	84	47	2,2,2



1	2	3	4	5	6	7	8	9
5 | 5	5 | 10	5 | 15	5 | 20	5 | 25	5 | 30	5 | 35	5 | 40	5 | 45
		A	B	C	D	E	F	G

2	4	8	12
5 | 10	5 | 20	5 | 40	5 | 60
			H

4	3	7	10
5 | 20	5 | 15	5 | 35	5 | 50

10	5	15	20
5 | 50	5 | 25	5 | 75	5 | 100
		I	A

5	4	3	2
5 | 25	5 | 20	5 | 15	5 | 10

9	8	7	6
5 | 45	5 | 40	5 | 35	5 | 30

5	5	5	5
1 | 5	2 | 10	4 | 20	8 | 40
B		E	C

2	6	5	5	7	5	5	5	9
5 | 10	5 | 30	4 | 20	1 | 5	5 | 35	5 | 25	8 | 40	3 | 15	5 | 45
						H		

32	43	34	25	52
32	43	34	25	52
+32	+43	+34	+25	+52
96 A	129 B	102 C	75 D	156

55	66	77	88	99
55	66	77	88	99
+55	+66	+77	+88	+99
165 F	198 G	231 G	264	297 H

	A	B	C	D
E	20	35	102	30
F	15	5	40	165
G	45	231	25	198
H	297	20	8	12
I	96	129	15	75

Here is one of the many methods that lead to correct answers.
Some call it "regrouping"; others call it "carrying and borrowing". If you already have a good method, please use it.

Este es una de las muchas maneras que le lleva a las respuestas correctas.
Algunos lo llaman "regrupar" otros lo llaman "llevar y pedir prestado". Si usted ya tiene un buen método favor de usarlo.

The purpose of the shaded areas on this and similar pages is only to suggest ways of keeping track of "regrouping." Students need not complete the work in these areas.

Addition		Subtraction		Multiplication		Division	
1 26 + 26 52	26 + 26 52	4 52 - 26 26	52 - 26 26	1 26 × 2 52	26 × 2 52	26 2 | 52	26 2 | 52
1 57 + 57 4	57 + 57 114 A	01 114 - 57 5	114 - 57 57 B	1 57 × 2 4	57 × 2 114 C	5 2 | 14	57 2 | 114 D
30 + 48 78	35 + 48 83 E	83 - 40 43	83 - 48 35 F	13 × 3 39	18 × 3 54 G	10 3 | 30	18 3 | 54 H
95 + 30 125	95 + 36 131 I	131 - 30 101	131 - 36 95 J	20 × 5 100	27 × 5 135 A	24 5 | 120	27 5 | 135 B

"Regroup"?
¿"Regrupa"? "YES" (Y) or "NO" (N)

(Y) N	Y (N)	Y (N)	Y (N)	(Y) N	(Y) N	Y (N)	(Y) N
31 + 19 50 A	55 - 13 42 B	21 × 4 84 C	45 + 53 98 D	45 - 18 27 E	16 × 2 32 F	21 3 | 63 G	16 2 | 32 I

	A	B	C	D	E
F	Y	27	35	Y	Y
G	135	N	114	N	54
H	114	18	N	41	83
I	28	19	131	57	Y
J	0	57	84	9	95

M ---- 5¢

M	TOTAL	
1	5 ¢	
2	10 ¢	A
4	20 ¢	
8	40¢	B
16	80¢	
32	$1.60	C
64	$3.20	D

T = 3

T	total	
1	3	
3	9	
2	6	
6	18	
7	21	A
4	12	B
5	15	

12 inches = 1 FOOT

FEET	inches	
1	12	
2	24	
3	36	C
$\frac{1}{2}$	6	D
$\frac{1}{3}$	4	E
$\frac{1}{4}$	3	F
$\frac{1}{6}$	2	A

C → $1\frac{1}{2}$

C	TOTAL	
2	3	
4	6	
6	9	B
10	15	C
20	30	F
8	12	D
16	24	E
12	18	F

1 METER
10 decimeters

METERS	decimeters	
1	10	
2	20	F
3	30	
9	90	B
$\frac{1}{2}$	5	B
$\frac{1}{10}$	1	D
$\frac{3}{10}$	3	E
5	50	B

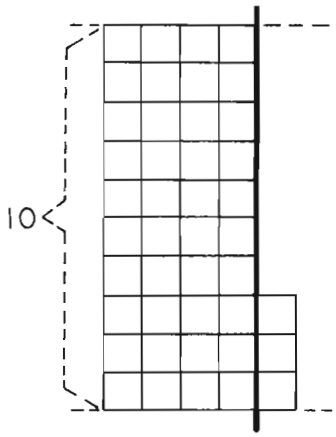
16 GLASSES → 1 gallon

GALLON	GLASSES	
1	16	
$\frac{1}{2}$	8	F
$\frac{1}{4}$	4	B
$\frac{1}{8}$	2	C

A	B	C	D	E	F
7	9	3	64	3	12
21	8	15	12	4	8
10	5	2	6	9	3
2	4	32	1	16	20

Addition
Sumar

43 + 20 = 63	43 + 7 = 50
43 + 28 = 71	33 + 9 = 42
53 + 13 = 66	43 + 43 = 86



Total 43

Subtraction
Restar

43 − 13 = 30	43 − 4 = 39
43 − 14 = 29	73 − 15 = 58
43 − 18 = 25	53 − 26 = 27

0	1	2	3	4	5	6	7	8	9	10	11	12	13
×5	×5	×5	×5	×5	×5	×5	×5	×5	×5	×5	×5	×5	×5
0	5	10	15	20	25	30	35	40	45	50	55	60	65

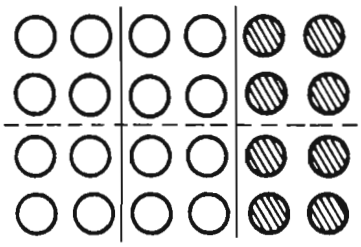
5	10	15
×5	×5	×5
25	50	75

4	8	16
×5	×5	×5
20	40	80

9	10	19
×5	×5	×5
45	50	95

7	14	28
×5	×5	×5
35	70	140

7	14	9	18
5 | 35	5 | 70	5 | 45	5 | 90
5	10	15	20
5 | 25	5 | 50	5 | 75	5 | 100
8	16	11	22
5 | 40	5 | 80	5 | 55	5 | 110



How do you feel?
¿Cómo se siente?

24
Total

$\frac{1}{3}$ of 24 = 8 $\quad\quad$ $\frac{2}{3} \times 24 = 16$

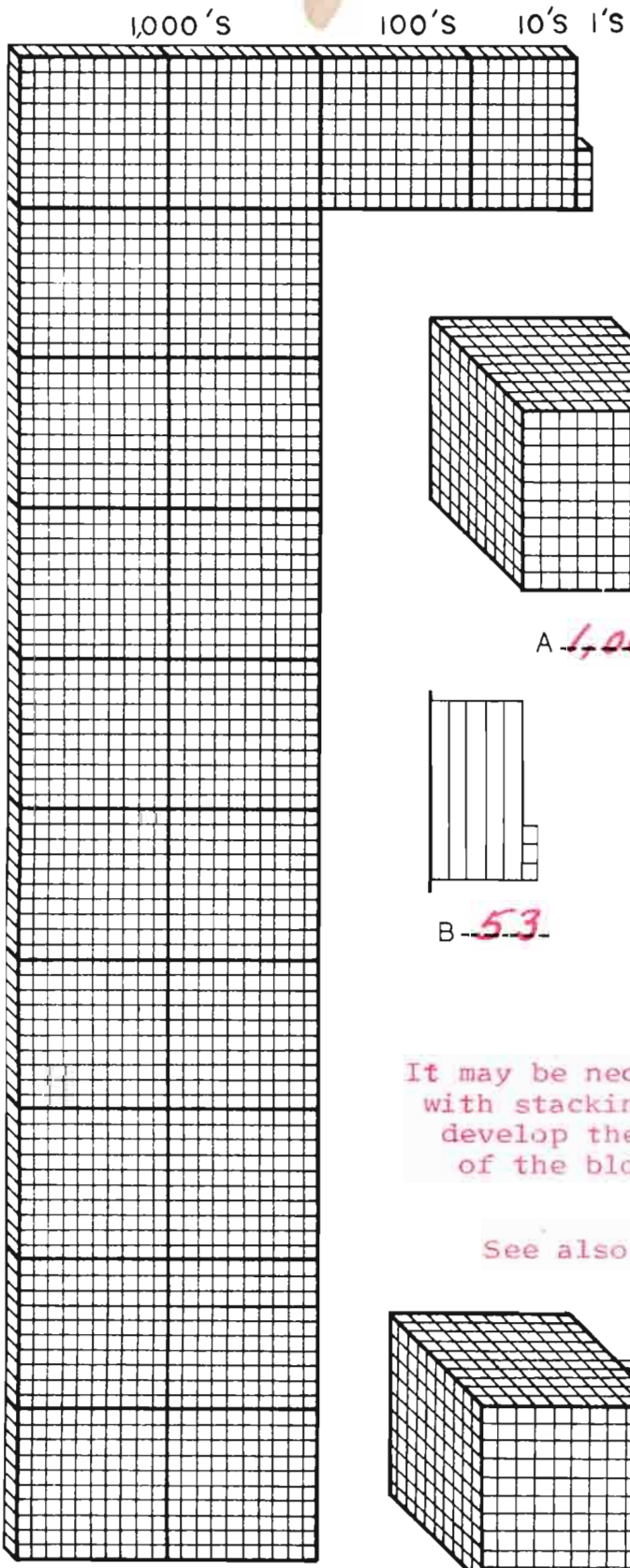
$\frac{1}{2} \times 24 = 12$ $\quad\quad$ $\frac{3}{3} \times 24 = 24$

1 W = 4 N

W	N
1	4
3	12
6	24
9	36
5	20

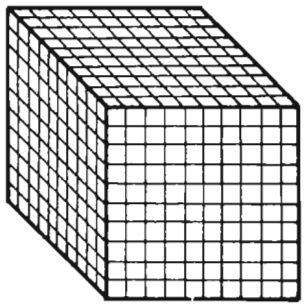
1 DOZ = 12 EGGS

DOZ.	EGGS
1	12
3	36
$\frac{1}{2}$	6
$\frac{1}{3}$	4
$\frac{1}{6}$	2

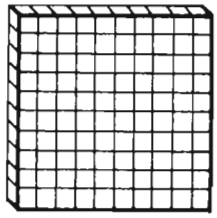


TWO thousand DOS mil
ONE hundred CIENTO
SEVEN ty SETENTA
FOUR CUATRO

2,174



A 1,000

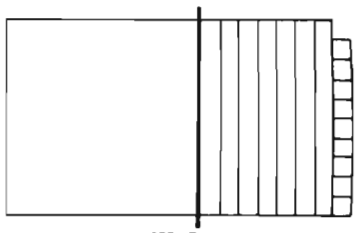


B 100

C 10

A 1

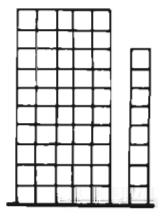
B 53



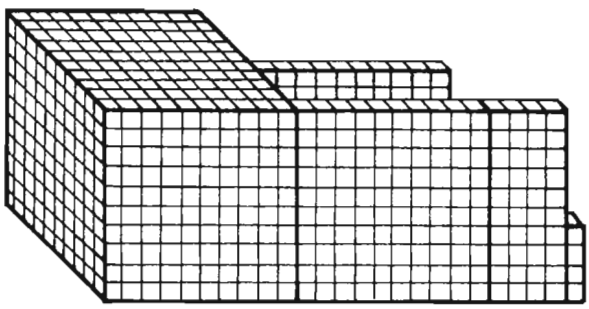
C 179

It may be necessary to precede this work with stacking blocks or centicubes to develop the child's understanding of the blocks he cannot see.

See also: D.I. p. 87 - 88



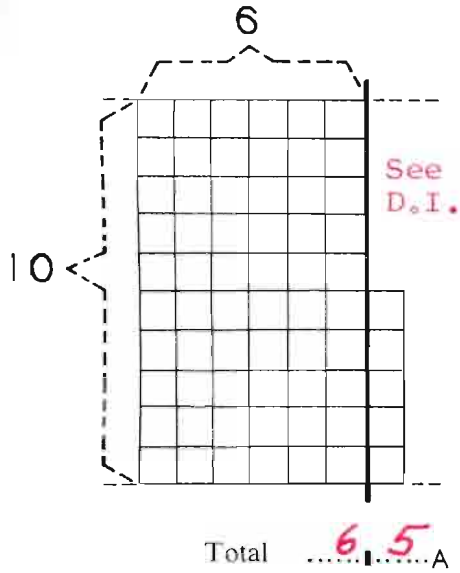
A 58



B 1,244

A	B	C
58	94	179
256	100	234
1	1,244	10
1,000	940	971
327	53	719

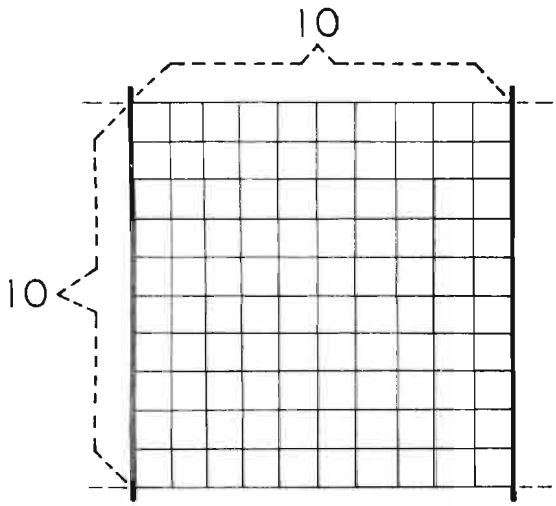
"HOW MANY?" "¿CUANTOS?"



See also:
D.I. p. 105 - 109

Total 65 A

60 + 5 = 65 E	60 + 10 = 70 B	60 + 15 = 75 G
65 − 5 = 60 C	65 − 6 = 59 A	65 − 16 = 49 C
55 + 5 = 60 H	55 + 15 = 70 D	55 + 35 = 90 H



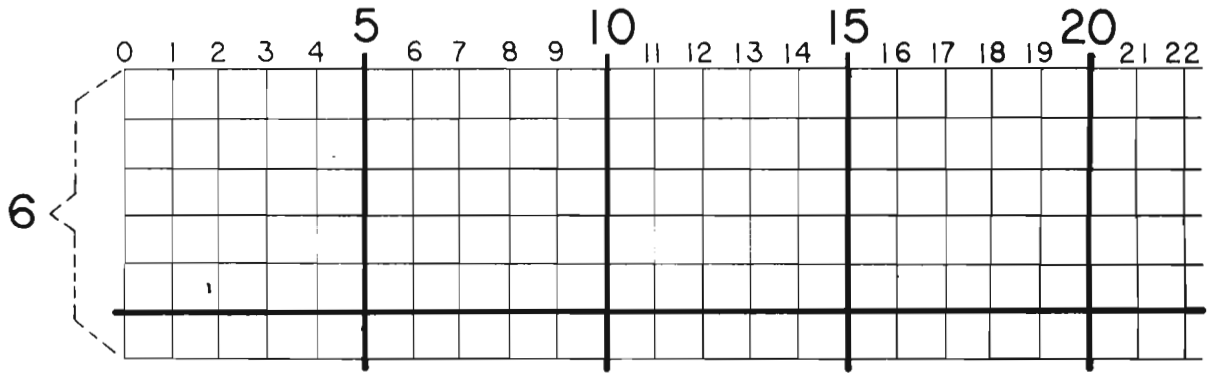
Total 100 B

50 + 50 = 100 F	100 + 50 = 150	150 + 50 = 200 C
100 +300 = 400	150 +350 = 500 D	125 +375 = 500 A
100 − 5 = 95	100 − 10 = 90 A	100 − 15 = 85 B

Chain Reactions Reacción en Cadena

2	+2	4	+2	6 (C)	+2	8	+2	10	+2	12	+2	14
3	+3	6 (G)	+3	9	+3	12 (C)	+3	15	+3	18	+3	21
5	+5	10	+5	15	+5	20	+5	25	+5	30	+5	35
4	+4	8	+4	12 (D)	+4	16 (F)	+4	20	+4	24	+4	28
8	+8	16 (A)	+8	24	+8	32	+8	40 (B)	+8	48	+8	56

	A	B	C
D	500	70	12
E	65	85	49
F	16	100	200
G	59	75	6
H	90	40	60



Please complete the tables Favor de completar las tablas

0 × 6 = 0	1 × 6 = 6	2 × 6 = 12	3 × 6 = 18	4 × 6 = 24	5 × 6 = 30	6 × 6 = 36	7 × 6 = 42	8 × 6 = 48	9 × 6 = 54	10 × 6 = 60	11 × 6 = 66	12 × 6 = 72	13 × 6 = 78
		A	B	C	D	E	F	G	H	I	A	B	C

1 × 6 = 6	2 × 6 = 12	4 × 6 = 24	8 × 6 = 48	12 × 6 = 72

6 × 2 = 12	6 × 5 = 30	6 × 7 = 42	6 × 8 = 48

3 × 6 = 18	6 × 6 = 36	9 × 6 = 54

4 × 6 = 24	6 × 6 = 36	10 × 6 = 60	16 × 6 = 96
			G

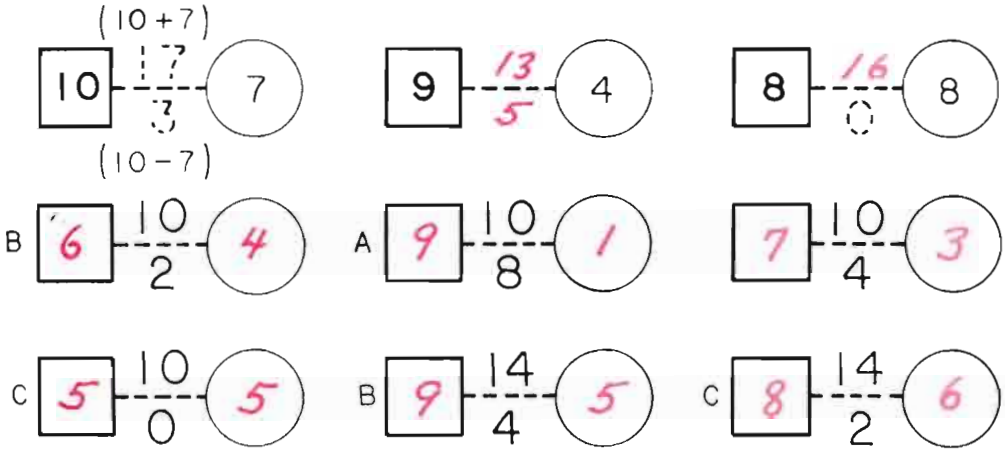
6 × 4 = 24	6 × 3 = 18	6 × 7 = 42	6 × 8 = 48

6 × 6 = 36	8 × 6 = 48	14 × 6 = 84	15 × 6 = 90
		H	D

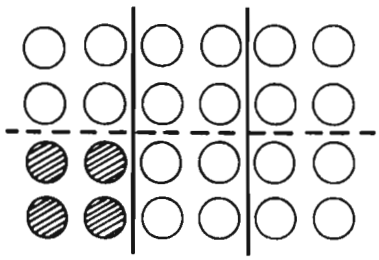
5 × 6 = 30	10 × 6 = 60	15 × 6 = 90	6 × 4 = 24	6 × 5 = 30	6 × 9 = 54	10 × 6 = 60	3 × 6 = 18	13 × 6 = 78	6 × 7 = 42	6 × 8 = 48	6 × 9 = 54	7 × 6 = 42	14 × 6 = 84
		D											D

Sums and Differences

Sumas y Diferencias

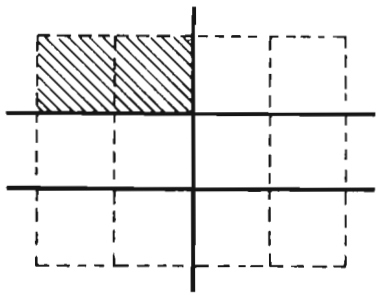


	A	B	C	D
E	9,1	18	36	90
F	12	6,4	78	42
G	48	96	5,5	30
H	54	9,5	24	84
I	66	72	8,6	60



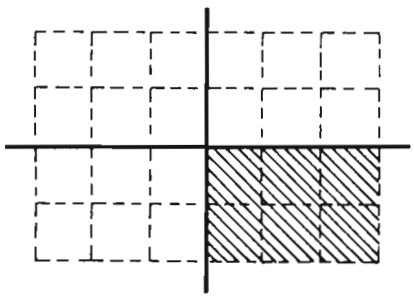
24 A
Total

$\frac{1}{6}$ of 24 = 4 (A, B)
$\frac{5}{6}$ of 24 = 20 (A)
$\frac{3}{6}$ of 24 = 12 (A, C)
$\frac{1}{2} \times 24 = 12$ (A, F)



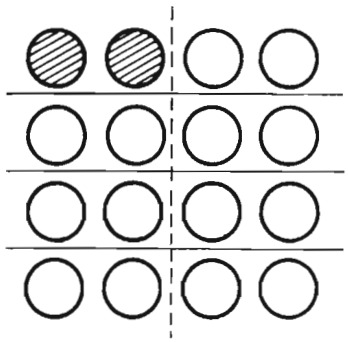
12 D
Total

$\frac{1}{6}$ of 12 = 2 (D)
$\frac{5}{6} \times 12 = 10$ (D)
$\frac{2}{6} \times 12 = 4$ (D, G)
$\frac{1}{3} \times 12 = 4$ (D, B)



24 E
Total

$\frac{1}{4}$ of 24 = 6 (E, H)
$\frac{3}{4} \times 24 = 18$ (E, J)
$\frac{2}{4} \times 24 = 12$ (E, I)
$\frac{1}{2} \times 24 = 12$ (E, F)



16 D
Total

$\frac{1}{8} \times 16 = 2$ (D, E)
$\frac{3}{8} \times 16 = 6$ (D)
$\frac{4}{8} \times 16 = 8$ (D, C)
$\frac{1}{2} \times 16 = 8$ (D, H)

12's

2	6	6	2
4	6	5	2
3	6	7	2
9	4	4	4

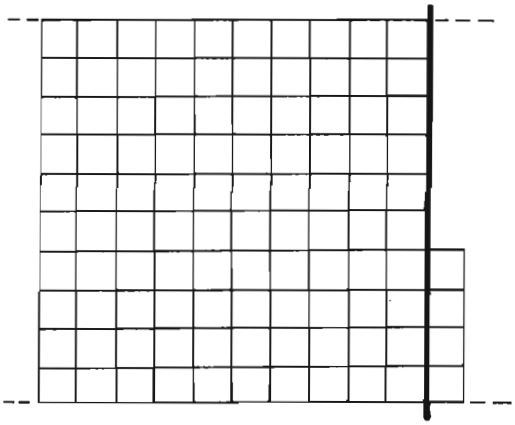
13's

4	3	6	7
4	8	4	3
5	3	2	3
4	9	5	8

	A	B	C	D
E	24	0	28	2
F	3	21	12	10
G	20	4	30	16
H	6	15	8	26
I	14	9	5	12
J	7	18	22	9

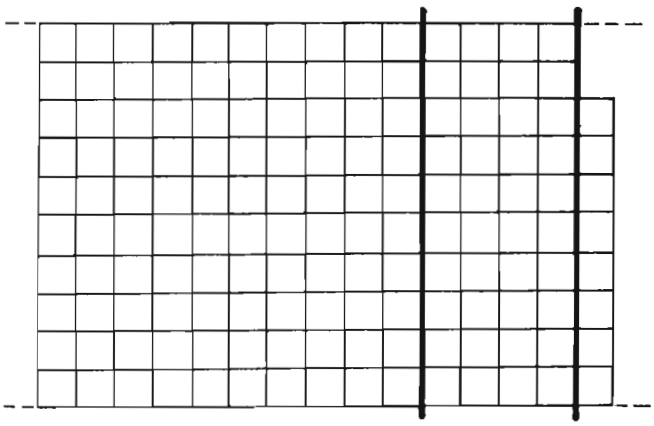
"HOW MANY?"

"¿CUANTOS?"



Total 104 A

104 − 4 = 100 B	104 − 7 = 97 C	104 − 17 = 87 D
204 − 5 = 199 E	204 − 15 = 189 F	204 − 25 = 179 G
204 − 10 = 194 H	204 − 40 = 164 A	204 − 45 = 159 B

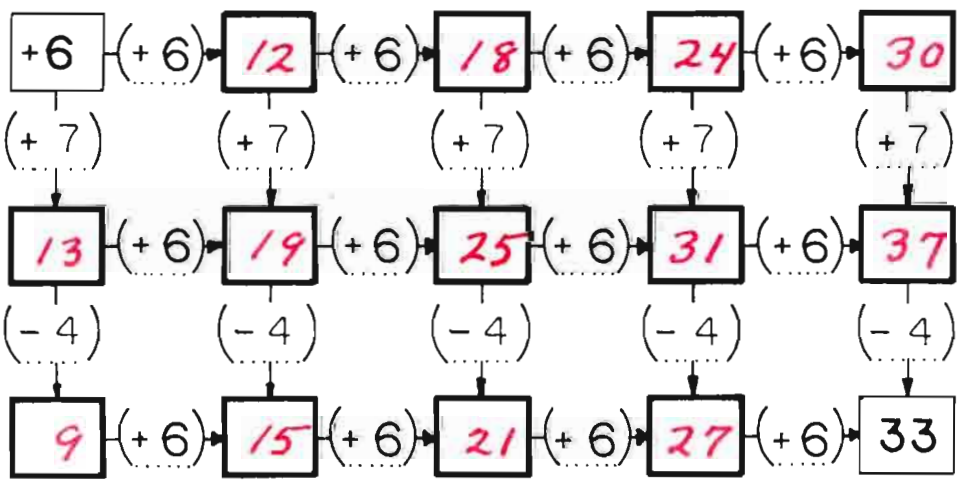


Total 148 C

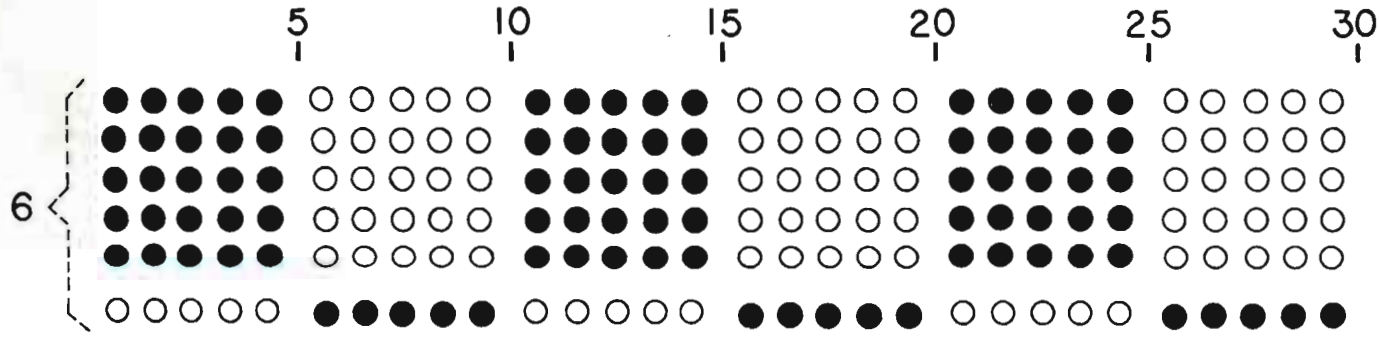
140 − 40 = 100 B	140 − 50 = 90 F	140 − 51 = 89 B
148 − 9 = 139 E	148 − 19 = 129	148 − 39 = 109 B
148 − 50 = 98	148 − 58 = 90 C	148 − 59 = 89 D

TWO-WAY Chain Reactions

Reacción en Cadena en DOS MANERAS.



	A	B	C
D	164	89	87
E	139	100	199
F	104	189	90
G	179	109	148
H	194	159	97



The diagram is divided into groups of 5 x 5 so that the child will be able to avoid one-to-one counting.
See also: D & P p. 140 - 142

Please complete the tables Favor de completar las tablas

1	2	3	4	5	6	7	8	9
6|6	6|12	6|18	6|24	6|30	6|36	6|42	6|48	6|54
		A	B	C	D	E	F	G

3	2	5	10
6|18	6|12	6|30	6|60

1	2	4	8
6|6	6|12	6|24	6|48

6	6	6	6
3|18	6|36	9|54	10|60
I			A

10	2	12	13
6|60	6|12	6|72	6|78
			B

10	6	16	17
6|60	6|36	6|96	6|102
		C	

6	6	6	6
9|54	8|48	7|42	6|36
		E	

4	9	1	6	6	6	2	8	5
6|24	6|54	6|6	3|18	6|36	7|42	6|12	6|48	6|30

Please loop "Neighbors" whose sum is given

Favor de poner un lazo a los "numeros vecinos" que dan la suma indicada.

	7	7	7	7	7	7	7
	4	4	4	4	4	4	4
	8	8	8	8	8	8	8
	3	3	3	3	3	3	3
	5	5	5	5	5	5	5
	9	9	9	9	9	9	9
	B		F	G	I		
	14	16	36	29	27	20	17

	A	B	C	D
E	18	5,9	9	42
F	11	24	48	7,4,8 3,5,9
G	10	54	30	4,8,3 5,9
H	60	13	7,4 8,3	36
I	7,4,8 3,5	3	16	4,8,3

Please remember that this is one of several shortcuts to correct answers

Favor de recordar que este es uno de varios caminos cortos para obtener respuestas correctas.

$\overset{1}{39}+12$	$39+12=51$ A	$\overset{4\,1}{\cancel{5}1}-12$	$51-12=39$ B	$\overset{1}{15}\times 3$	$15\times 3=45$ C	$3\overline{)\cancel{4}5}$	$3\overline{)45}=15$ D
$\overset{1}{35}+35=0$	$35+35=70$	$\overset{6\,1}{\cancel{7}0}-35$	$70-35=35$	$\overset{1}{35}\times 2=0$	$35\times 2=70$	$2\overline{)\cancel{7}0}$	$2\overline{)70}=35$
$\overset{1}{147}+28=5$	$147+28=175$	$\overset{6\,1}{1\cancel{7}5}-28$	$175-28=147$	$\overset{1}{54}\times 3$	$54\times 3=162$	$3\overline{)\cancel{1}62}$	$3\overline{)162}=54$
$80+89=169$	$85+89=174$ C	$174-84=90$	$174-89=85$ D	$30\times 5=150$	$35\times 5=175$ E	$5\overline{)150}=30$	$5\overline{)175}=35$ A
$124+345=469$	$124+348=472$ B	$472-342=130$	$472-348=124$ C	$20\times 8=160$	$24\times 8=192$ D	$8\overline{)160}=20$	$8\overline{)192}=24$ B

"Regroup"?

¿"Regrupa"? YES (Y) or NO (N)

(Y) N $74+16=90$ A	Y (N) $67+32=99$ B	Y (N) $45-24=21$ E	(Y) N $80-51=29$ C	(Y) N $15\times 2=30$ A	Y (N) $21\times 4=84$ E	(Y) N $2\overline{)36}=18$ D	(Y) N $2\overline{)58}=29$ C

	A	B	C	D	E
F	162	24	124	15	175
G	35	39	174	85	147
H	Y	N	Y	Y	N
I	51	472	45	192	70
	Y	54	Y	175	N

BOOK
15 ¢

books	total	
1	15 ¢	
2	30 ¢	A
4	60 ¢	B
8	$1.20	C
5	75 ¢	
10	$1.50	D
20	$3.00	E

50 MILES/1 HOUR

HOURS	MILES	
1	50	
3	150	
5	250	F
$\frac{1}{5}$ (12 min)	10	G
$\frac{1}{2}$	25	
$\frac{1}{10}$ (6 min)	5	I
$1\frac{1}{2}$	75	J

1 CARTON
6 CANS

cartons	cans	
1	6	
2	12	
3	18	
5	30	D
8	48	C
9	54	D
7	42	

1 DAY = 24 HOURS

days	hours	
1	24	
2	48	G
$\frac{1}{2}$	12	H
$\frac{1}{3}$	8	I
$\frac{1}{4}$	6	J
$\frac{1}{6}$	4	A
$1\frac{1}{3}$	32	G
$2\frac{1}{2}$	60	H

1 M = 100 CM

M	CM	
1	100	
$\frac{1}{2}$	50	I
$\frac{1}{4}$	25	B
$\frac{3}{4}$	75	E
$\frac{1}{10}$	10	G
$1\frac{1}{2}$	150	H
$2\frac{1}{10}$	210	I
$5\frac{3}{10}$	530	J

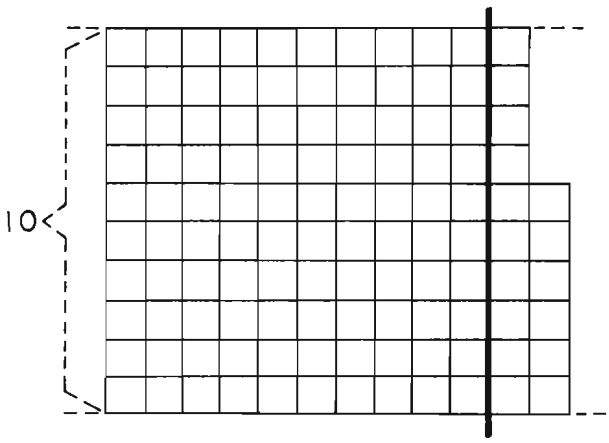
1 YARD = 36 inches

yards	inches	
$\frac{1}{2}$	18	H
$\frac{1}{3}$	12	D
$\frac{1}{4}$	9	
$\frac{1}{6}$	6	J

	A	B	C	D	E	F
G	4	25	48	10	75	32
H	18	60	150	12	$\frac{1}{2}$	250
I	50	30	8	5	210	$\frac{1}{3}$
J	30	$1\frac{1}{2}$	530	54	3.00	6

Addition
Sumas

100 + 16 = 116	116 + 30 = 146	116 + 4 = 120	116 + 54 = 170
112 + 18 = 130	125 + 75 = 200		



Total 116

Subtraction
Diferencias

100 − 10 = 90	116 − 9 = 107	116 − 16 = 100	116 − 18 = 98
116 − 20 = 96	116 − 51 = 65		

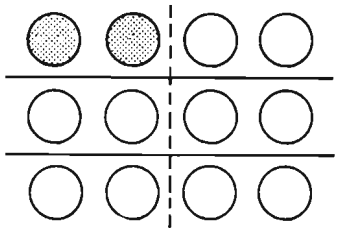
0 ×6 = 0	1 ×6 = 6	2 ×6 = 12	3 ×6 = 18	4 ×6 = 24	5 ×6 = 30	6 ×6 = 36	7 ×6 = 42	8 ×6 = 48	9 ×6 = 54	10 ×6 = 60	11 ×6 = 66	12 ×6 = 72	13 ×6 = 78

4 ×6 = 24	10 ×6 = 60	14 ×6 = 84
7 ×6 = 42	20 ×6 = 120	27 ×6 = 162

10 ×6 = 60	30 ×6 = 120	40 ×6 = 240
8 ×6 = 48	9 ×6 = 54	17 ×6 = 102

10	4	14	15
6 | 60	6 | 24	6 | 84	6 | 90
20	2	22	23
6 | 120	6 | 12	6 | 132	6 | 138
4	8	12	16
6 | 24	6 | 48	6 | 72	6 | 96

How do you feel?
¿Cómo se siente?



Total

$\frac{1}{6}$ of 12 = 2 $\quad\quad$ $\frac{5}{6}\times 12 = 10$

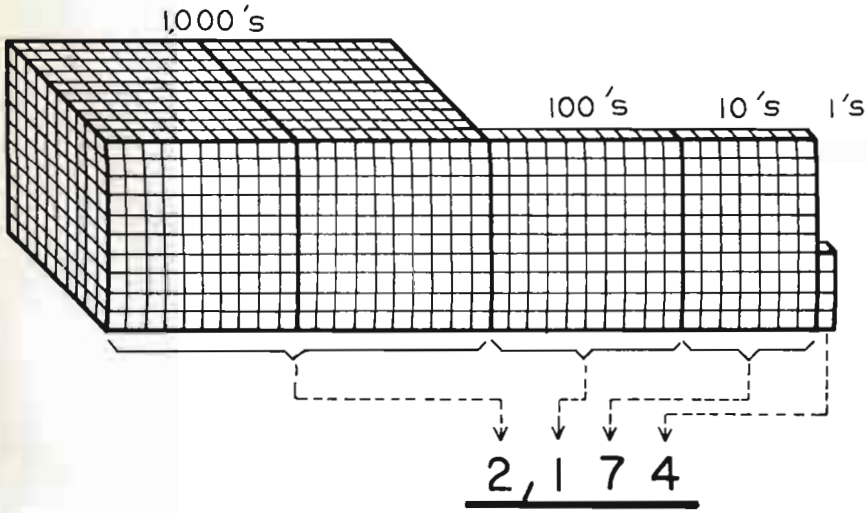
$\frac{3}{6}\times 12 = 6$ $\quad\quad$ $\frac{1}{2}\times 12 = 6$

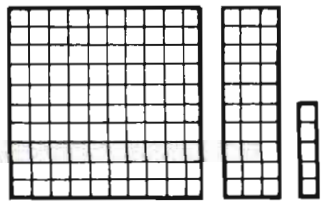
1 (25¢) = 5 (5¢)

I DOLLAR.....
....100 CENTS

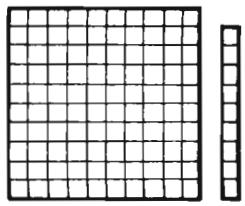
(25¢)	(5¢)
1	5
3	15
$\frac{1}{5}$	1
$\frac{2}{5}$	2
10	50

dollars	cents
1	100
$\frac{1}{2}$	50
$\frac{1}{4}$	25
$\frac{1}{10}$	10
$3\frac{1}{100}$	301

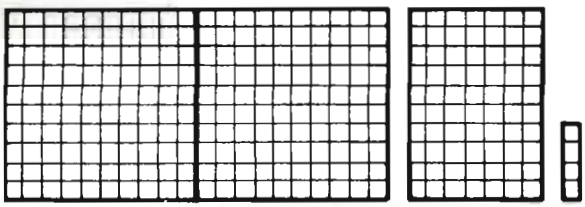




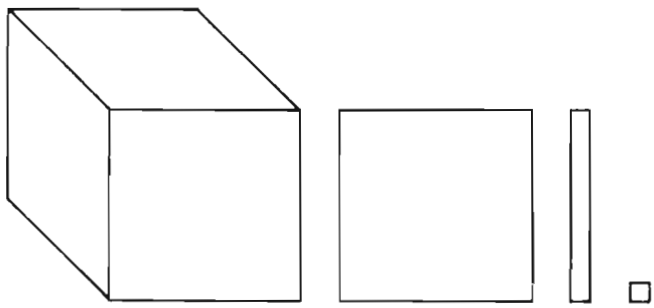
A 135



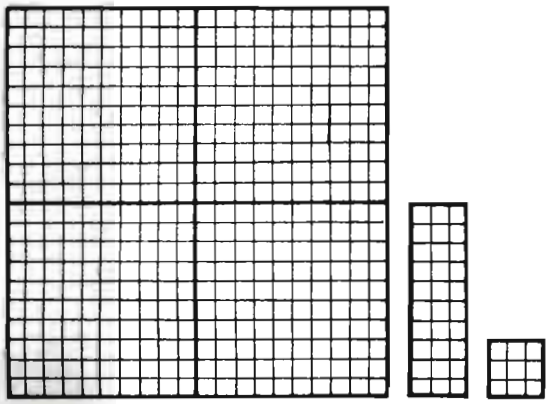
B 109



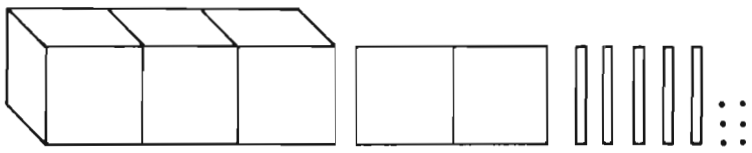
A 274



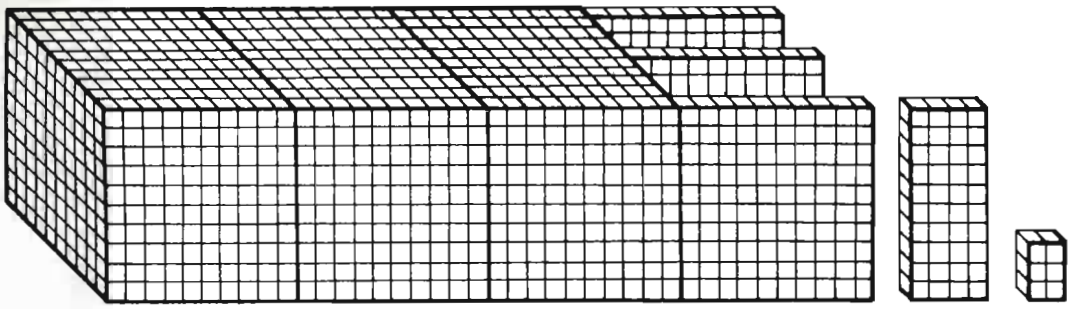
B 1,111



A 439



B 3,256



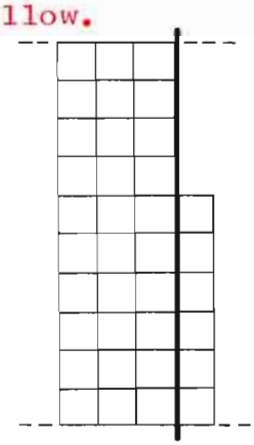
A 3,346

A	B
3,126	3,256
135	207
513	1,111
3,024	109
439	3,169
968	279
3,346	1,003
274	4,126

"HOW MANY?"

You might like to observe student reaction to the "form" of the two division examples on this page and others to follow.

"¿CUANTOS?"



Total 36 A

$$\begin{array}{r} 36 \\ +\ 4 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 36 \\ +\ 14 \\ \hline 50 \text{ B} \end{array}$$

$$\begin{array}{r} 34 \\ +\ 16 \\ \hline 50 \text{ D} \end{array}$$

$$\begin{array}{r} 34 \\ +\ 19 \\ \hline 53 \text{ C} \end{array}$$

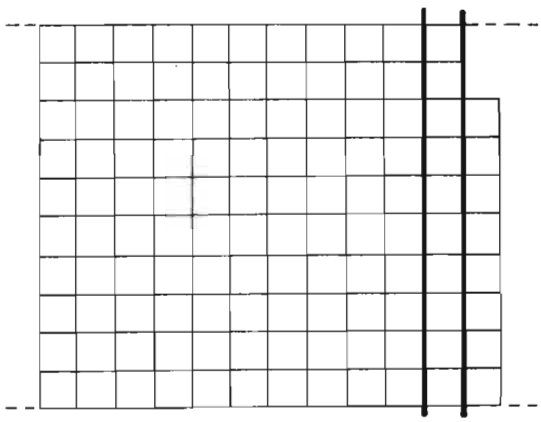
$$\begin{array}{r} 36 \\ +\ 36 \\ \hline 72 \text{ D} \end{array}$$

$$\begin{array}{r} 72 \\ +\ 36 \\ \hline 108 \text{ E} \end{array}$$

$$\begin{array}{r} 36 \\ \times\ 2 \\ \hline 72 \text{ C} \end{array}$$

$$\begin{array}{r} 36 \\ \times\ 3 \\ \hline 108 \text{ B} \end{array}$$

$$\begin{array}{r} 36 \\ \div\ 2 \\ \hline 18 \text{ H} \end{array}$$



Total 118 G

$$\begin{array}{r} 100 \\ +\ 18 \\ \hline 118 \text{ B} \end{array}$$

$$\begin{array}{r} 118 \\ +\ 12 \\ \hline 130 \end{array}$$

$$\begin{array}{r} 112 \\ +\ 78 \\ \hline 190 \text{ I} \end{array}$$

$$\begin{array}{r} 118 \\ +900 \\ \hline 1018 \text{ J} \end{array}$$

$$\begin{array}{r} 118 \\ +118 \\ \hline 236 \text{ A} \end{array}$$

$$\begin{array}{r} 236 \\ +118 \\ \hline 354 \text{ C} \end{array}$$

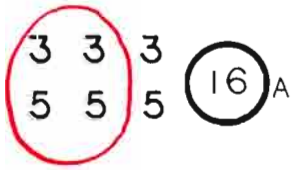
$$\begin{array}{r} 118 \\ \times\ 2 \\ \hline 236 \text{ E} \end{array}$$

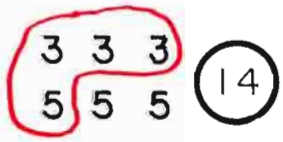
$$\begin{array}{r} 118 \\ \times\ 3 \\ \hline 354 \text{ E} \end{array}$$

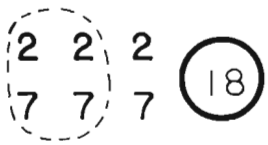
$$\begin{array}{r} 118 \\ \div\ 2 \\ \hline 59 \text{ F} \end{array}$$

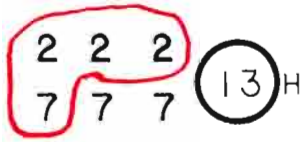
Loop Arithmetic

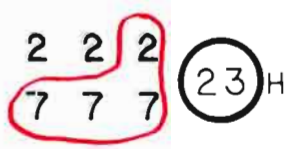
Aritmética de Lazo

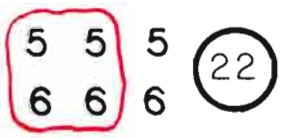


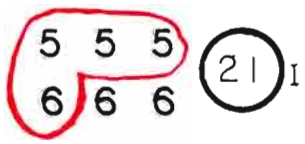




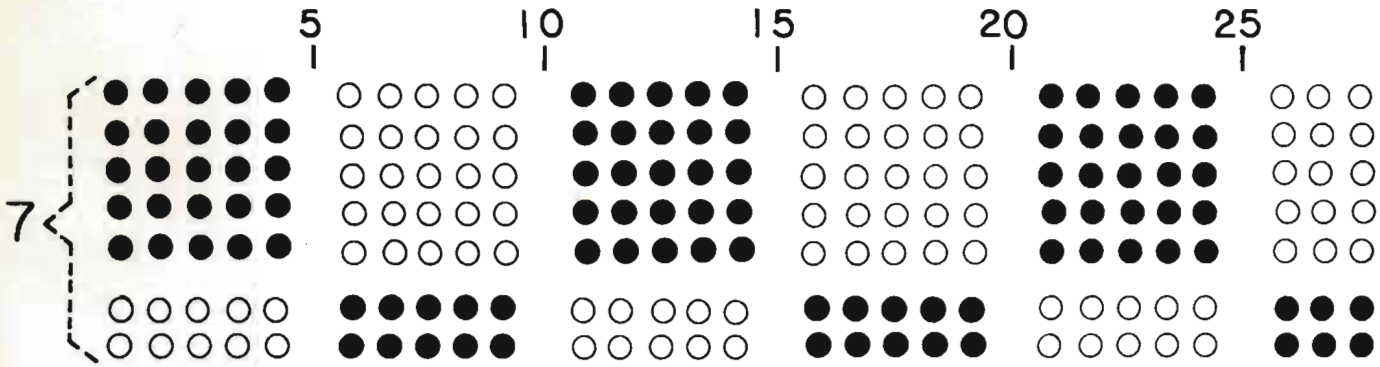








	A	B	C
D	3,3 5,5	50	72
E	236	108	354
F	36	48	59
G	3,3,3 5	118	53
H	2 7,7,7	18	222 7
I	5 6,6,6	190	555 6
J	5,6,6	6,4,5	1,018



Please complete the tables Favor de completar las tablas

0	1	2	3	4	5	6	7	8	9	10	11	12	13
× 7	× 7	× 7	× 7	× 7	× 7	× 7	× 7	× 7	× 7	× 7	× 7	× 7	× 7
0	7	14	21	28	35	42	49	56	63	70	77	84	91
		A	B	C	D	E	F	G	H	I	J	A	B

10	5	6	12	13
× 7	× 7	× 7	× 7	× 7
70	35	42	84	91

7	7	7	7
× 1	× 2	× 4	× 8
7	14	28	56

3	6	9
× 7	× 7	× 7
21	42	63

4	10	14	15
× 7	× 7	× 7	× 7
28	70	98	105
		C	D

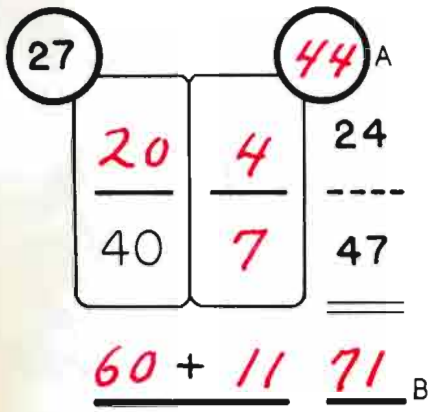
7	7	7	7
× 9	× 8	× 7	× 6
63	56	49	42

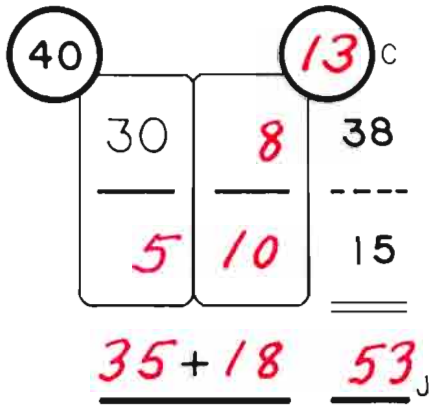
5	10	15	30
× 7	× 7	× 7	× 7
35	70	105	210
		F	F

10	2	12	7	7	7	10	3	13	7	7	7	10	20
× 7	× 7	× 7	× 3	× 6	× 9	× 7	× 7	× 7	× 2	× 4	× 8	× 7	× 7
70	14	84	21	42	63	70	21	91	14	28	56	70	140
													G

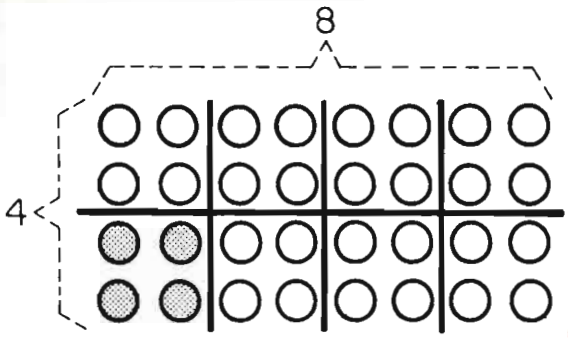
Domino Puzzles Rompecabezas de Dóminos

Addition Suma



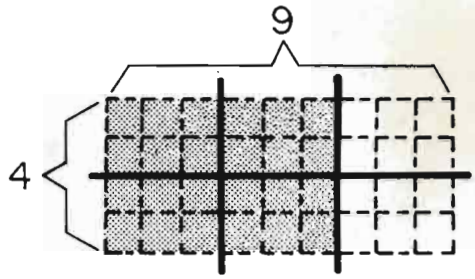


	A	B	C	D
E	31	91	43	42
F	14	49	210	105
G	84	140	28	56
H	63	21	98	37
I	41	70	13	35
J	44	71	77	53



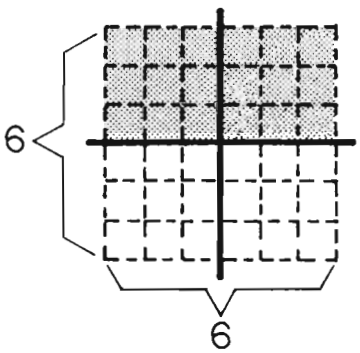
Total 32 (A)

$\frac{1}{8}$ of 32 (A) = 4 (D)
$\frac{1}{4}$ × 32 (A) = 8 (D)
$\frac{6}{8}$ of 32 (A) = 24 (C)
$\frac{3}{4}$ × 32 (A) = 24 (H)



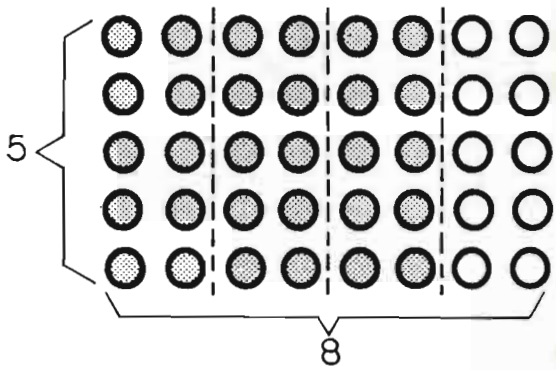
36 (E)

$\frac{4}{6}$ of 36 (E) = 24 (F)
$\frac{2}{3}$ × 36 (E) = 24
$\frac{2}{6}$ × 36 (E) = 12 (G)
$\frac{1}{3}$ × 36 (E) = 12 (D)



36 (G)

$\frac{2}{4}$ of 36 (G) = 18 (H)
$\frac{1}{2}$ × 36 (G) = 18 (B)
$\frac{1}{4}$ × 36 (G) = 9 (I)
$\frac{3}{4}$ × 36 (G) = 27 (J)



40 (A)

$\frac{3}{4}$ × 40 (A) = 30 (B)
$\frac{1}{4}$ × 40 (A) = 10 (D)
$\frac{2}{4}$ × 40 (A) = 20 (C)
$\frac{1}{2}$ × 40 (A) = 20 (E)

25	5	1	
1	1	1	31
B			

25	5	1	
1	2	2	37
B			

25	5	1	
2	2	4	64
F			

36	6	1	
0	4	3	27
J			

36	6	1	
1	1	3	45
C			

36	6	1	
2	1	1	79
A			

49	7	1	
1	1	0	56
H			

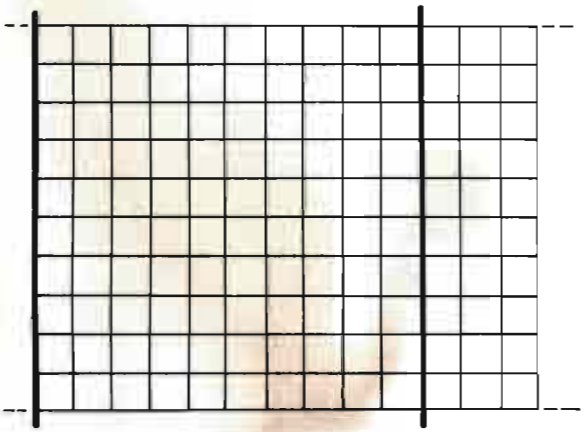
49	7	1	
0	6	3	45
A			

49	7	1	
1	3	0	70
C			

	A	B	C	D
E	36	1,22	20	10
F	2,2,4	24	1,2,4	8
G	32	1,1,1	36	12
H	0,6,3	18	24	1,1,0
I	40	30	1,3,0	9
J	2,1,1	27	1,1,3	0,4,3

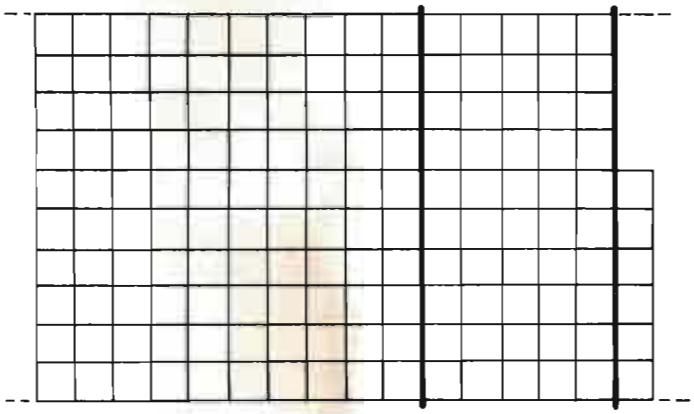
"HOW MANY?"

"¿CUANTOS?"



Total 130 A

100 + 30 = 130 H	130 − 30 = 100 C	130 − 40 = 90 D
130 − 5 = 125 E	130 − 25 = 105 F	130 − 45 = 85 G
130 − 105 = 25 H	130 × 2 = 260 E	130 × 3 = 390 B



Total 156 C

50 + 56 = 106 D	156 − 7 = 149 E	156 − 27 = 129 F
156 − 57 = 99 G	156 − 87 = 69	156 − 107 = 49
156 + 150 = 306	156 + 156 = 312 B	156 × 2 = 312 H

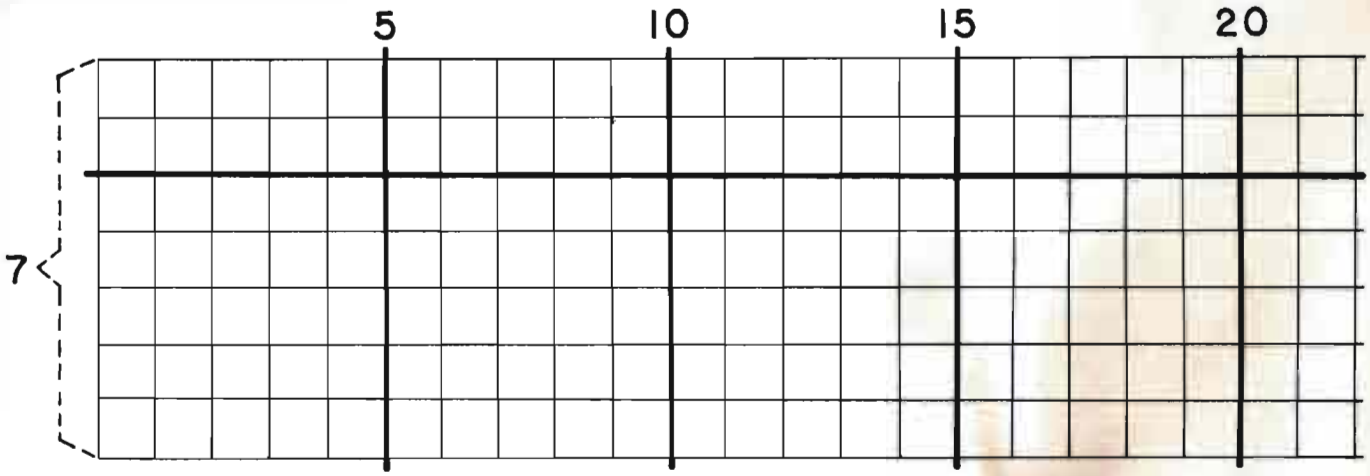
14's

2	1	7	7	8
4	5	6	2	6
8	9	8	5	9
6	4	5	9	3
7	3	11	3	2

15's

6	9	4	7	4
3	1	5	4	5
6	8	3	4	1
9	4	5	3	2
6	5	5	8	3

	A	B	C
D	106	90	100
E	125	260	149
F	129	390	105
G	99	85	156
H	130	312	25



1	2	3	4	5	6	7	8	9
7 | 7	7 | 14	7 | 21	7 | 28	7 | 35	7 | 42	7 | 49	7 | 56	7 | 63
A	B	C	D	E	F	G	H	I

3	6	9	12
7 | 21	7 | 42	7 | 63	7 | 84
			J

4	6	10	16
7 | 28	7 | 42	7 | 70	7 | 112
		A	B

7	7	7	7
2 | 14	3 | 21	5 | 35	7 | 49

7	7	7	7
6 | 42	8 | 56	7 | 49	9 | 63

9	10	19	20
7 | 63	7 | 70	7 | 133	7 | 140
	A	E	F

30	40	50	60
7 | 210	7 | 280	7 | 350	7 | 420
G	H	I	J

3	7	4	6	9	2	5	8	1
7 | 21	7 | 49	7 | 28	7 | 42	7 | 63	7 | 14	7 | 35	7 | 56	7 | 7

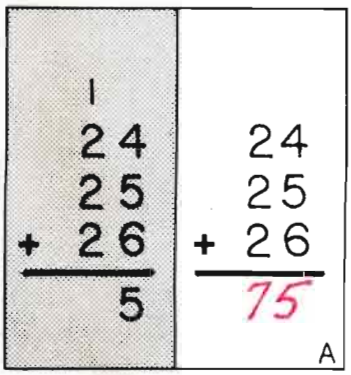
32	43	25	19	83
32	43	25	19	83
+ 32	+ 43	+ 25	+ 19	+ 83
96	129 A	75	57 F	249 C

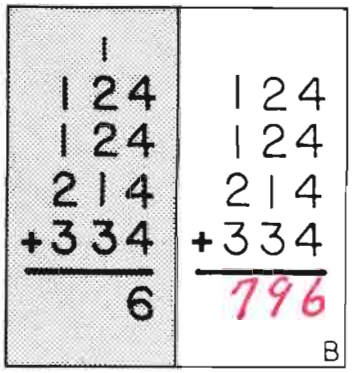
62	26	73	37	99
62	26	73	37	99
+ 62	+ 26	+ 73	+ 37	+ 99
186	78 F	219	111 J	297 C

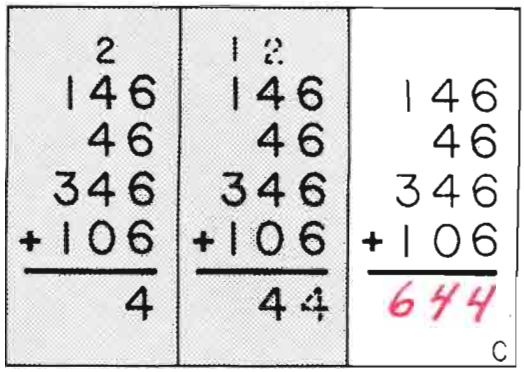
	A	B	C	D
E	70	133	21	35
F	78	42	57	140
G	7	112	49	210
H	129	280	249	56
I	350	63	297	28
J	111	14	12	420

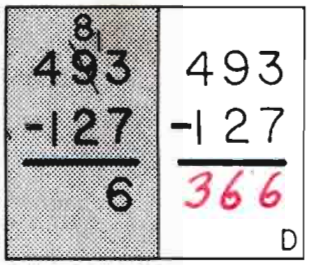
Please remember that this is one of several shortcuts to correct answers

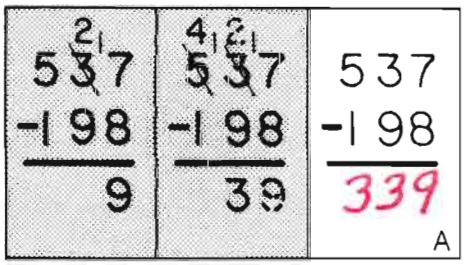
Favor de recordar que este es uno de varios caminos cortos para obtener respuestas correctas.

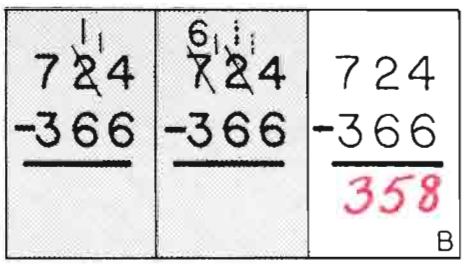


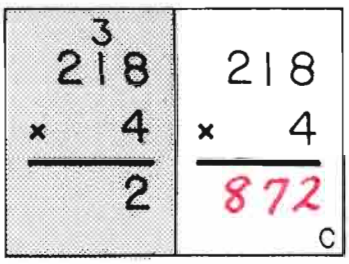


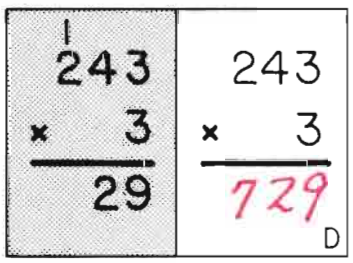


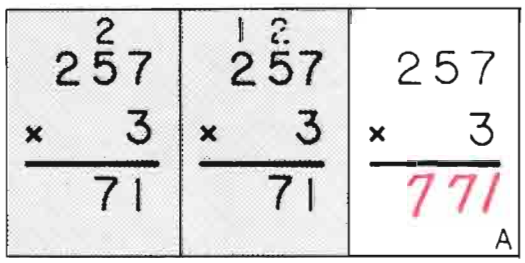


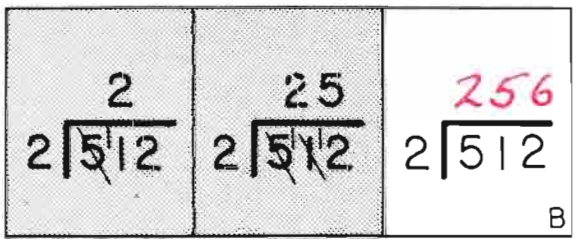


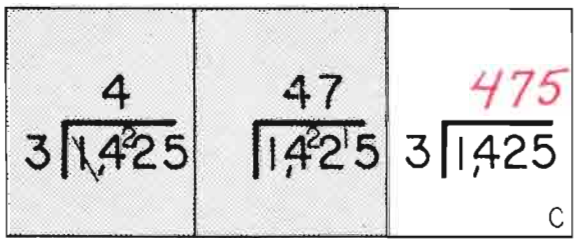


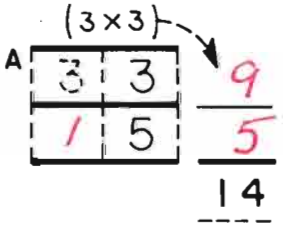


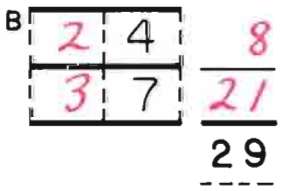


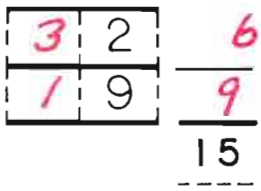


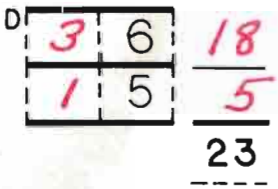


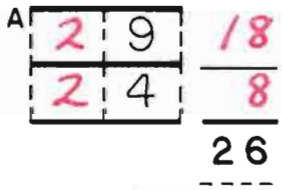


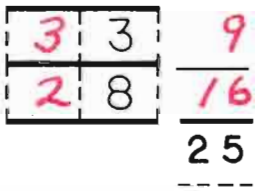












	A	B	C	D
E	2,2	2,1	3,0	481
F	1,4	358	3,1	366
G	75	256	872	1,2
H	3,1	796	475	729
I	339	3,2	4,1	3,1
J	771	2,3	644	3,3

12 EGGS → 1 DOZ.

doz.	eggs	
1	12	A
2	24	B
4	48	C
$\frac{1}{2}$	6	D
$\frac{1}{3}$	4	G
$\frac{2}{3}$	8	H
$\frac{3}{4}$	9	I

C..... 4¢

C	total	
1	4¢	C
10	40¢	D
6	24¢	J
16	64¢	G
22	88¢	I
23	92¢	J
25	$1.00	A

1 LB = 16 OZ.

LB.	OZ.	
1	16	
2	32	G
$\frac{1}{2}$	8	H
$\frac{1}{4}$	4	C
$\frac{1}{8}$	2	A
$\frac{1}{16}$	1	J
$\frac{3}{8}$	6	D

1 LB..... 48¢

LBS.	Total	
1	48¢	
2	96¢	G
$\frac{1}{2}$	24¢	B
$\frac{1}{4}$	12¢	
$1\frac{1}{4}$	60¢	E
$\frac{2}{3}$	32¢	J
$2\frac{1}{2}$	$1.20	I
10	$4.80	D

1 M = 100cm

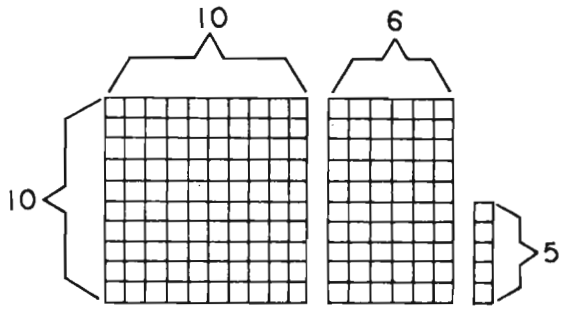
M	cm	
1	100	
5	500	
10	1,000	J
$\frac{1}{2}$	50	D
$\frac{1}{10}$	10	I
$\frac{3}{10}$	30	G
$\frac{5}{10}$ or $\frac{1}{2}$	50	B
$\frac{7}{10}$	70	H

T = 35¢

T	total	
1	35¢	
2	70¢	
4	$1.40	G
8	$2.80	H

	A	B	C	D	E	F
G	2	30	4	50	60	64
H	12	$\frac{5}{10}$, $\frac{1}{2}$	8	40	$\frac{2}{3}$	$\frac{7}{10}$
I	25	24	88	10	1.20	9
J	1,000	23	32	6	4.80	1

100 + 65 = 165	165 + 15 = 180									165 − 60 = 105	165 − 7 = 158		
165 + 300 = 465	165 + 35 = 200									160 − 55 = 105	160 − 65 = 95		
165 + 165 = 330	165 × 2 = 330									100 × 2 = 200	60 ÷ 3 = 20		



Total 165

0	1	2	3	4	5	6	7	8	9	10	11	12	13
×7	×7	×7	×7	×7	×7	×7	×7	×7	×7	×7	×7	×7	×7
0	7	14	21	28	35	42	49	56	63	70	77	84	91

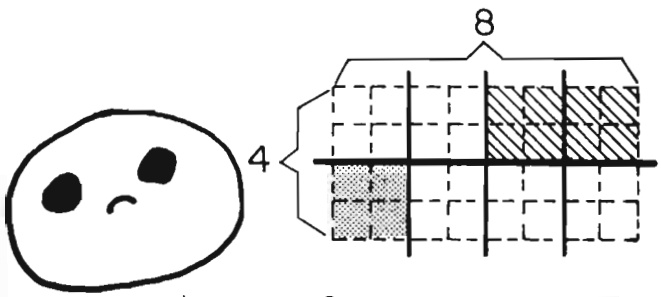
5	10	15
×7	×7	×7
35	70	105

10	20	30
×7	×7	×7
70	140	210

6	20	26
×7	×7	×7
42	140	182

4	8	16
×7	×7	×7
28	56	112

10	5	15	30
7 | 70	7 | 35	7 | 105	7 | 210
9	10	19	20
7 | 63	7 | 70	7 | 133	7 | 140
5	9	14	16
7 | 35	7 | 63	7 | 98	7 | 112



How do you feel?
¿Cómo se siente?

Total

$\frac{1}{8}$ of 32 = 4 $\quad \frac{1}{4} \times 32 = 8$

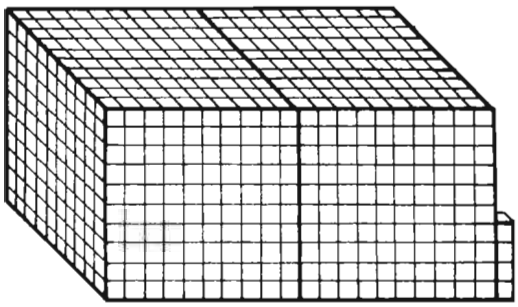
$\frac{6}{8} \times 32 = 24 \quad \frac{3}{4} \times 32 = 24$

1 da. = 24 hr.

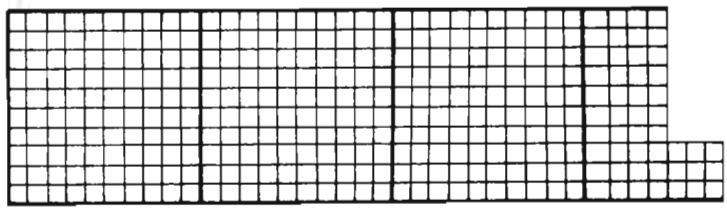
da.	hr.
1	24
$\frac{1}{2}$	12
$3\frac{1}{2}$	84
$\frac{1}{6}$	4
$1\frac{1}{6}$	28

1 LB. → 32¢

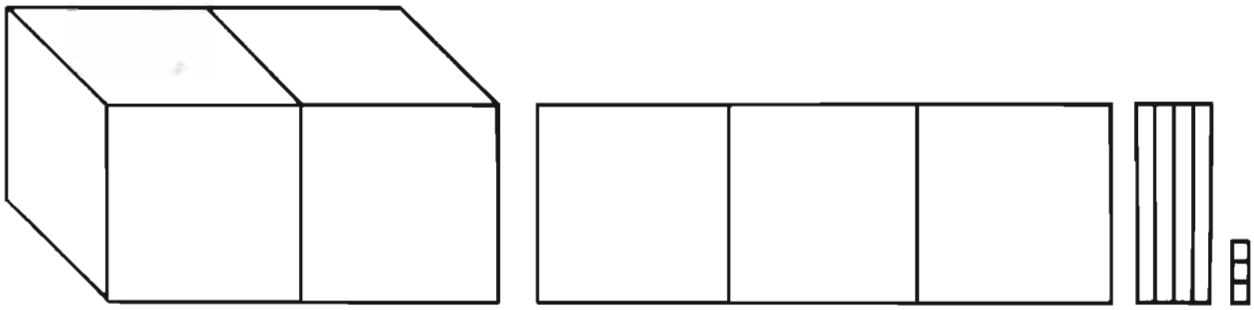
LBS.	COST
1	32¢
3	96¢
$\frac{1}{2}$	16¢
$\frac{1}{4}$	8¢
$\frac{1}{8}$	4¢



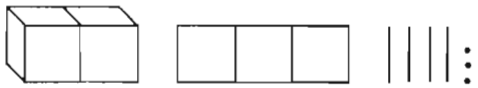
A 2,004



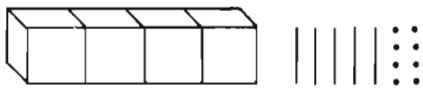
B 349



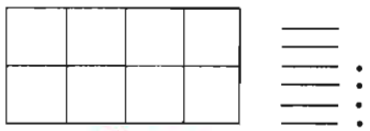
C 2,343



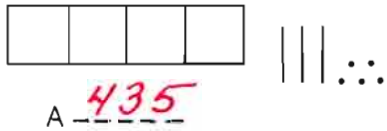
A 2,343



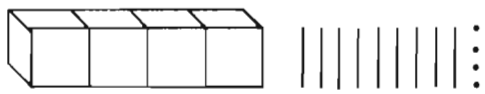
B 4,058



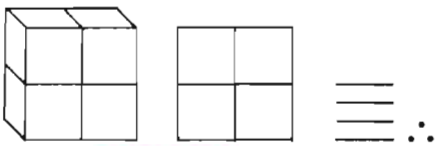
C 864



A 435

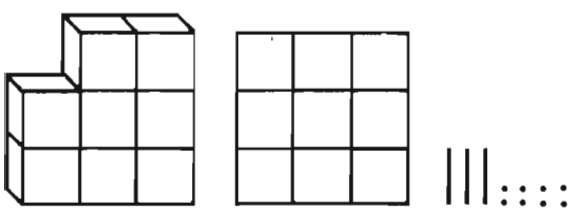


B 4,094

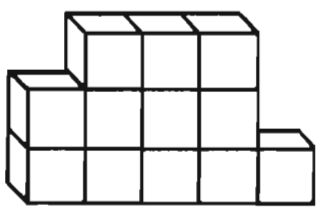


C 4,443

A 458



B 8,938

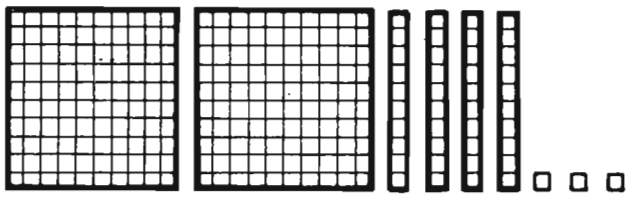


C 12,000

A	B	C
435	4,058	12,000
775	8,938	864
2,004	396	1,725
915	4,094	2,343
2,343	944	4,443
458	349	5,000

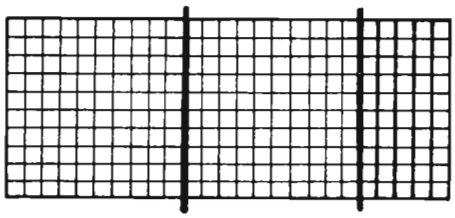
"HOW MANY?"

"¿CUANTOS?"



Total 243 A

143 + 143 = 286 B	243 + 7 = 250 C	243 + 56 = 299 D
243 + 57 = 300 H	243 + 190 = 433 I	243 + 597 = 840 J
243 + 243 = 486 A	486 + 243 = 729 B	243 × 3 = 729 H



250 F

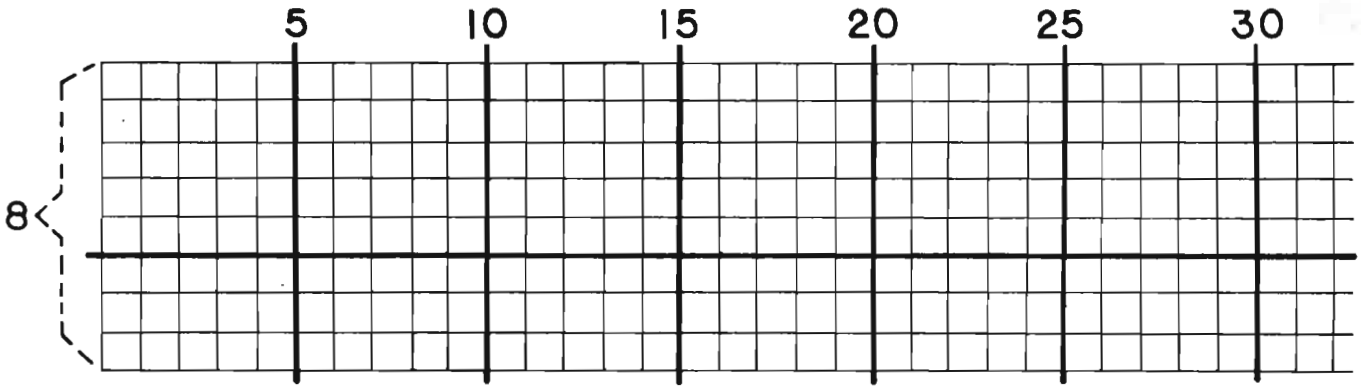
100 + 150 = 250 C	250 + 50 = 300 C	250 + 57 = 307 I
258 + 107 = 365 A	258 + 157 = 415 B	250 + 750 = 1,000 C
250 × 2 = 500 J	250 × 3 = 750 B	250 × 4 = 1,000 E

Chain Reactions

Reacción en Cadena

70	−7	63	−7	56	−7	49	−7	42	−7	35	−7	28
3	+4	7	+5	12	+6	18	+7	25	+8	33	+9	42
12	+12	24	+12	36	+12	48	+12	60	+12	72	+12	84
10	+7	17	+7	24	+7	31	+7	38	+7	45	+7	52
60	−6	54	−6	48	−6	42	−6	36	−6	30	−6	24

	A	B	C
D	365	291	299
E	243	750	1,000
F	486	415	250
G	418	286	512
H	128	729	300
I	433	900	307
J	500	840	800



Please complete the tables Favor de completar las tablas

0	1	2	3	4	5	6	7	8	9	10	11	12	13
× 8	× 8	× 8	× 8	× 8	× 8	× 8	× 8	× 8	× 8	× 8	× 8	× 8	× 8
0	8	16	24	32	40	48	56	64	72	80	88	96	104
A	B	C	D	E	F	G	H	I	J	K	A	B	C

2	4	8	16	32
× 8	× 8	× 8	× 8	× 8
16	32	64	128	256
			E	H

5	10	15	20
× 8	× 8	× 8	× 8
40	80	120	160
		I	J

8	8	8
× 7	× 8	× 9
56	64	72

13	14	15	16
× 8	× 8	× 8	× 8
104	112	120	128
		C	D

10	20	30	40
× 8	× 8	× 8	× 8
80	160	240	320
	D	E	F

50	60	70	90
× 8	× 8	× 8	× 8
400	480	560	720
H	D	A	K

7	10	17	8	8	8	5	20	25	8	30	38	11	22
× 8	× 8	× 8	× 4	× 5	× 9	× 8	× 8	× 8	× 8	× 8	× 8	× 8	× 8
56	80	136	32	40	72	40	160	200	64	240	304	88	176
		A					J	D		C	A		K

Please extend the patterns as indicated (Favor de extender las muestras.)

2 . 7 . 12 . 17 . 22 . 27 . 32 . 37 . 42 . 47 .

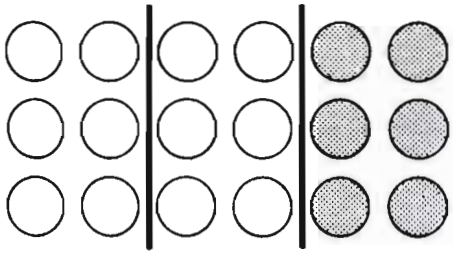
6 . 9 . 12 . 15 . 18 . 21 . 24 . 27 . 30 . 33 .

52 . 48 . 44 . 40 . 36 . 32 . 28 . 24 . 20 . 16 .

104 . 96 . 88 . 80 . 72 . 64 . 56 . 48 . 40 . 32 .

8 . 16 . 24 . 32 . 40 . 48 . 56 . 64 . 72 . 80 .

	A	B	C	D
E	304	32	240	128
F	88	320	16	40
G	48	8	104	480
H	400	256	56	200
I	560	64	120	24
J	136	96	72	160
K	0	176	80	720



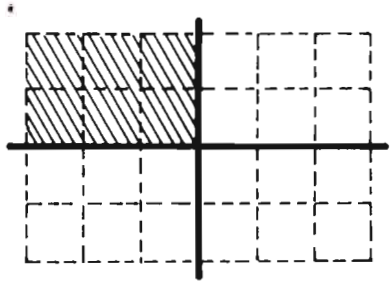
Total 18 A

$\frac{1}{3}$ of 18 = 6 (A, B)

$\frac{2}{3}$ of 18 = 12 (A, C)

$\frac{3}{3}$ of 18 = 18 (A, J)

$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$ D



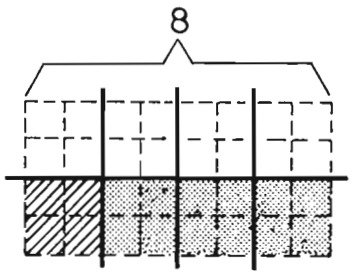
24 B

$\frac{1}{4}$ of 24 = 6 (B, F)

$\frac{3}{4} \times 24 = 18$ (B, A)

$\frac{1}{2} \times 24 = 12$ (B, H)

$\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$ D



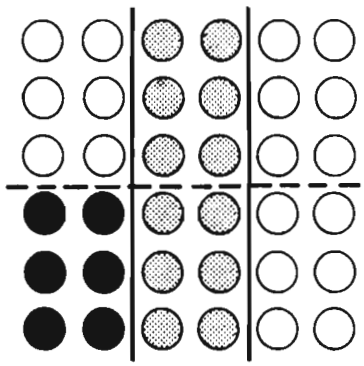
32 G

$\frac{1}{8}$ of 32 = 4 (G, E)

$\frac{3}{8} \times 32 = 12$ (G, C)

$\frac{1}{2} \times 32 = 16$ (G, B)

$\frac{1}{8} + \frac{3}{8} = \frac{4}{8}, \frac{1}{2}$ D



36 C

$\frac{1}{6} \times 36 = 6$ (C, B)

$\frac{1}{3} \times 36 = 12$ (C, H)

$\frac{1}{2} \times 36 = 18$ (C, A)

$\frac{1}{6} + \frac{1}{3} = \frac{3}{6}, \frac{1}{2}$ D

36	6	1	
1	2	4	52 A

36	6	1	
0	5	5	35 B

36	6	1	
1	4	0	60

49	7	1	
0	6	3	45 A

49	7	1	
1	3	0	70 B

49	7	1	
2	4	2	128 C

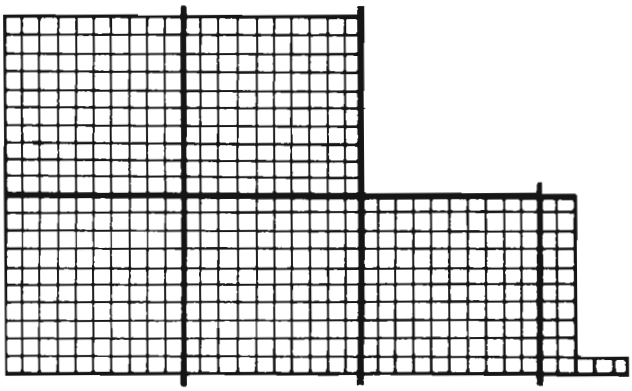
64	8	1	
1	2	0	80 A

64	8	1	
0	7	3	59 B

64	8	1	
1	4	4	100 C

	A	B	C	D
E	2,1,3	0,7,3	4	$\frac{3}{4}$
F	52	6	2,4,2	$\frac{5}{6}$
G	32	0,5,5	36	$\frac{2}{3}$
H	0,6,3	16	12	$\frac{1}{4}$
I	1,2,0	24	1,4,4	$\frac{1}{2}, \frac{4}{8}$
J	18	1,3,0	1,4,4	$\frac{1}{2}, \frac{3}{6}$

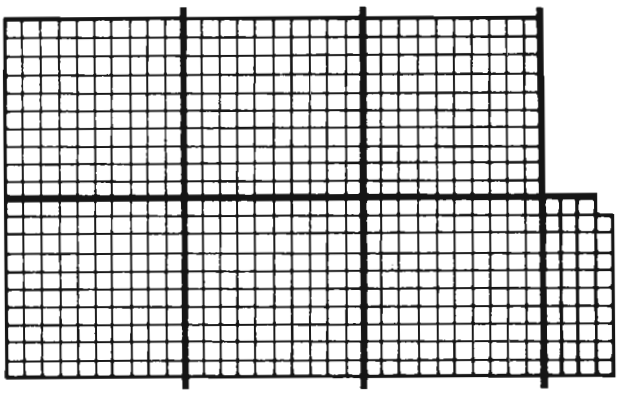
"HOW MANY?"



Total 523 A

"¿CUANTOS?"

630 − 7 = 623 B	523 − 24 = 499 C	523 − 34 = 489 A
523 − 107 = 416 B	523 − 227 = 296 C	523 − 184 = 339 A
523 − 416 = 107	523 − 296 = 227 C	523 − 339 = 184 A



639 D

640 − 21 = 619 E	639 − 40 = 599	639 − 447 = 192 G
439 − 150 = 289 A	929 − 238 = 691 B	3,639 − 740 = 2,899 C
639 + 639 = 1,278	639 × 2 = 1,278 I	639 ÷ 3 = 213 J

Multiplication --- and --- Division

Multiplicar --- y --- Dividir

(12×2) 12 — 24 — 2 — (12÷2) 6

9 — 27 — 3 — 3

6 — 18 — 2 — 3

8 — 32 — 2 — 4

12 — 36 — 4 — 3

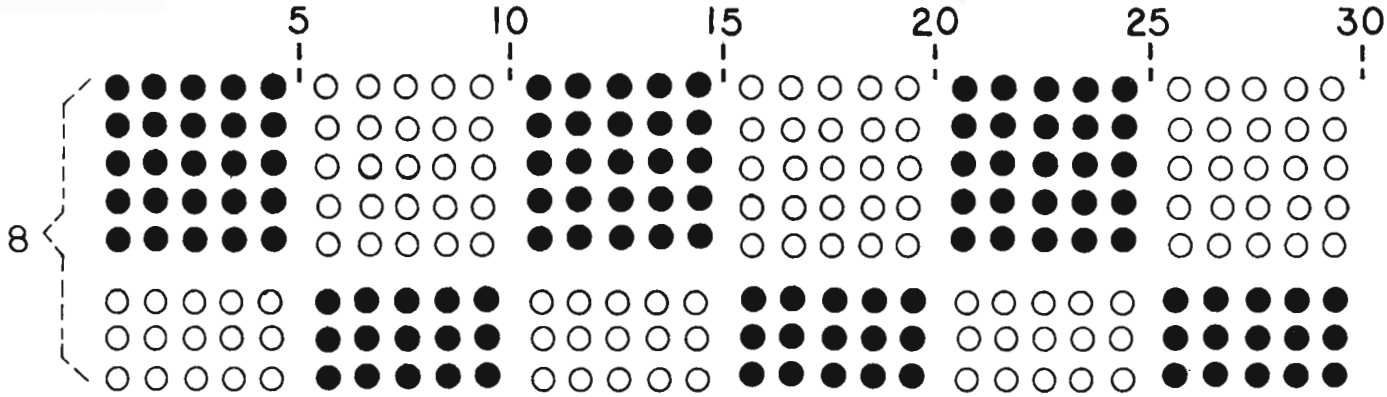
10 — 50 — 2 — 5

15 — 45 — 5 — 3

14 — 28 — 7 — 2

20 — 80 — 5 — 4 B

	A	B	C
D	339	204	639
E	619	623	296
F	289	416	399
G	523	192	227
H	184	691	499
I	1,278	84	105
J	489	213	2,899



1	2	3	4	5	6	7	8	9
8 | 8	8 | 16	8 | 24	8 | 32	8 | 40	8 | 48	8 | 56	8 | 64	8 | 72
A	B	C	D	E	F	G	H	I

0	5	10	15
8 | 0	8 | 40	8 | 80	8 | 120

3	6	9	12
8 | 24	8 | 48	8 | 72	8 | 96
			B

10	20	30	50
8 | 80	8 | 160	8 | 240	8 | 400
	A	E	A

40	3	43	86
8 | 320	8 | 24	8 | 344	8 | 688
E		F	A

20	9	29	58
8 | 160	8 | 72	8 | 232	8 | 464
		D	J

8	8	8	8
8 | 64	9 | 72	7 | 56	6 | 48

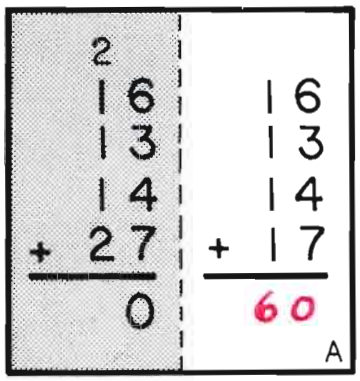
10	7	17	8	8	8	20	23	46
8 | 80	8 | 56	8 | 136	9 | 72	7 | 56	6 | 48	8 | 160	8 | 184	8 | 368
A							C	K

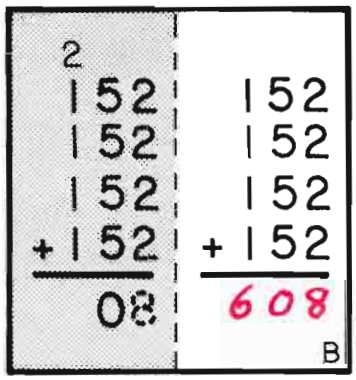
213	321	123	203
213	321	123	203
213	321	123	203
213	321	123	203
+213	+321	+123	+203
1065 G	1605 C	615 H	1015 E

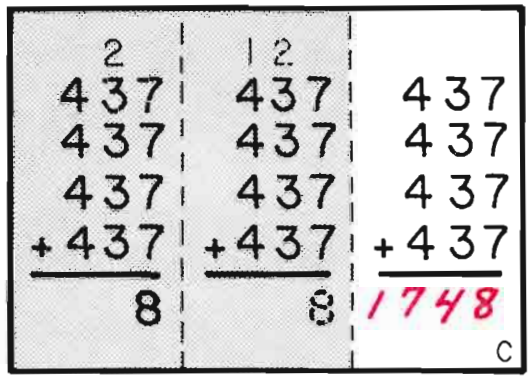
	A	B	C	D
E	120	30	1,015	40
F	120	48	24	43
G	8	96	1,065	56
H	17	16	64	615
I	20	72	1,605	32
J	86	58	0	232
K	50	80	23	368

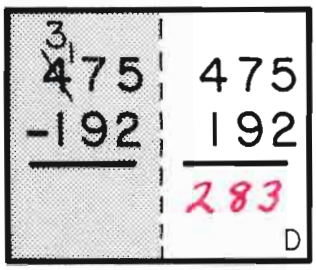
Please remember that this is one of several shortcuts to correct answers.

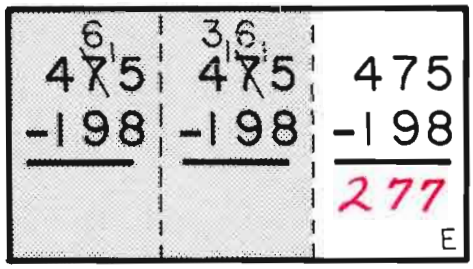
Favor de recordar que este es uno de varios caminos cortos para obtener respuestas correctas.

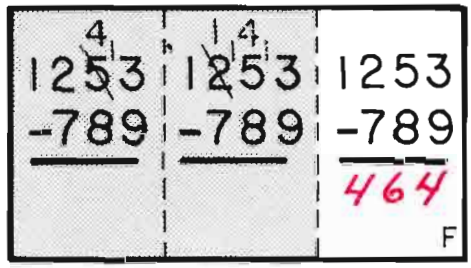


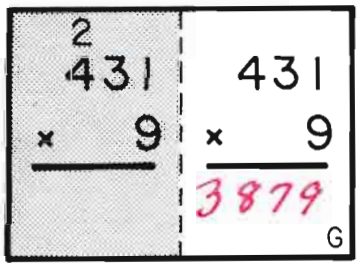


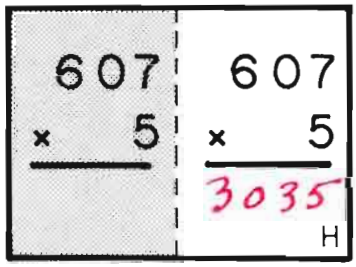


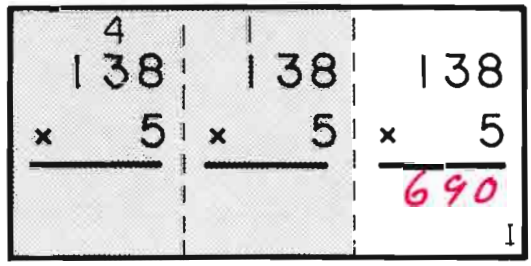


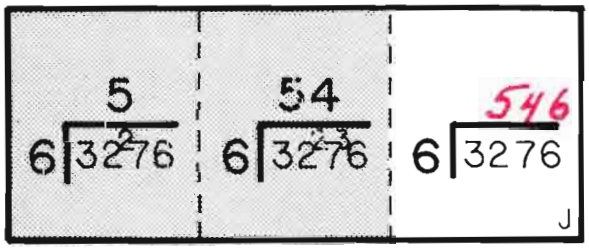


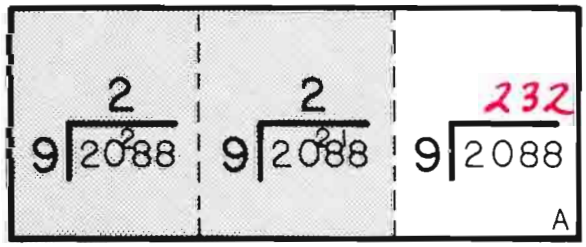






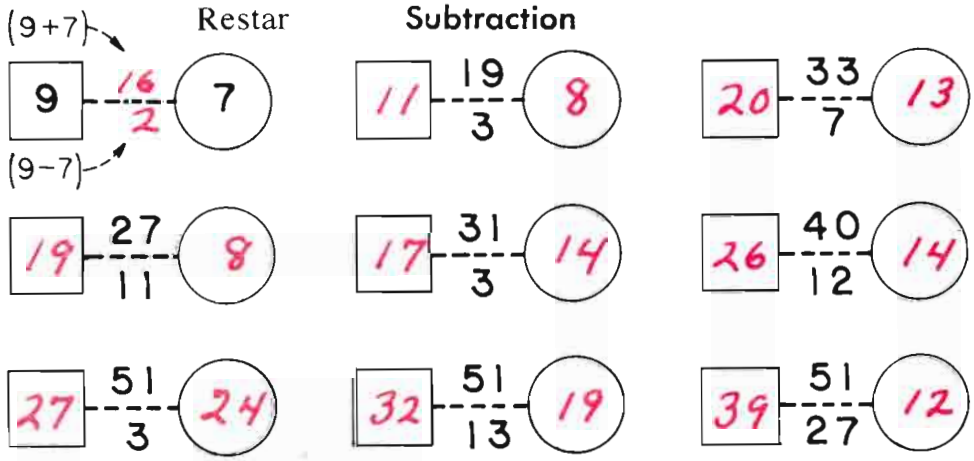






Sumar --- y --- Restar

Addition ---- and ---- Subtraction



	A	B	C	D
E	40	952	277	125
F	60	1,371	413	464
G	839	3,879	1,748	53
H	602	608	984	3,035
I	26	690	75	283
J	232	18	546	30

1 HOUR = 60 minutes

HOURS	minutes	
1	60	A
2	120	B
3	180	C
$\frac{1}{2}$	30	D
$\frac{3}{4}$	45	E
$1\frac{1}{2}$	90	F
$2\frac{1}{3}$	140	G

72¢ a yard

yards	price	
1	72¢	H
2	$1.44	I
4	$2.88	J
$\frac{1}{2}$	36¢	K
$\frac{1}{4}$	18¢	A
$\frac{3}{4}$	54¢	B
$1\frac{1}{2}$	$1.08	C

$\frac{1}{2}$ OFF

regular	sale	
50¢	25¢	D
$1.00	50¢	E
42¢	21¢	F
$3.00	$1.50	G
90¢	45¢	E
$1.50	75¢	E
$17.00	$8.50	F

$1 = 10 (10¢)

DOLLARS	DIMES	
1	10	G
2	20	C
5	50	H
$\frac{1}{2}$	5	E
$\frac{1}{5}$	2	J
$\frac{1}{10}$	1	A
$1\frac{1}{2}$	15	G
$3\frac{2}{5}$	34	D

120 miles / hour

HOURS	miles	
1	120	
2	240	
$\frac{1}{2}$	60	A
$3\frac{1}{2}$	420	
$\frac{1}{4}$	30	D
$2\frac{1}{4}$	270	B
$1\frac{3}{4}$	210	C
$\frac{1}{3}$	40	A

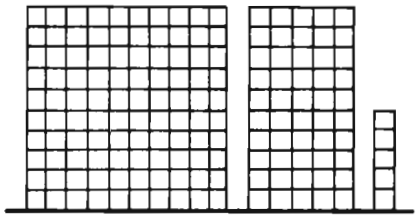
1 GALLON
4 QUARTS

GALS.	QTS.	
2	8	
$\frac{2}{4}$ or $\frac{1}{2}$	2	E
$\frac{1}{4}$	1	A
$\frac{1}{8}$	$\frac{1}{2}$	G

	A	B	C	D	E	F
G	$\frac{1}{8}$	$1\frac{1}{2}$	180	10	1.50	140
H	$\frac{1}{3}$	72	210	30	50	17.00
I	60	270	1.08	1.44	$\frac{1}{2}$	90
J	$\frac{1}{4}$	120	2	34	45	4
K	1	54	36	25	5	42

Addition
Sumar

155 + 15 = 170	155 + 45 = 200
155 + 87 = 242	355 + 355 = 710
155 × 2 = 310	355 × 2 = 710



Total 155

Subtraction
Restar

155 − 9 = 146	155 − 59 = 96
150 − 80 = 70	150 − 86 = 64
647 − 155 = 492	626 − 155 = 471

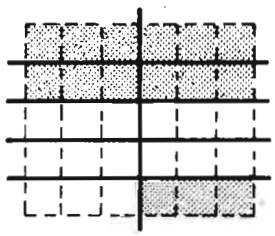
0 ×8 = 0	1 ×8 = 8	2 ×8 = 16	3 ×8 = 24	4 ×8 = 32	5 ×8 = 40	6 ×8 = 48	7 ×8 = 56	8 ×8 = 64	9 ×8 = 72	10 ×8 = 80	11 ×8 = 88	12 ×8 = 96	13 ×8 = 104

7 ×8 = 56	10 ×8 = 80	17 ×8 = 136
20 ×8 = 160	30 ×8 = 240	40 ×8 = 320

8 ×8 = 64	16 ×8 = 128	32 ×8 = 256
30 ×8 = 240	9 ×8 = 72	39 ×8 = 312

20	5	25	50
8 | 160	8 | 40	8 | 200	8 | 400
7	14	28	56
8 | 56	8 | 112	8 | 224	8 | 448
40	3	43	86
8 | 320	8 | 24	8 | 344	8 | 688

How do you feel?
¿Cómo se siente?



30
Total

$\frac{1}{10}$ of 30 = 3

$\frac{2}{5} \times 30 = 12$

$\frac{1}{2} \times 30 = 15$

$\frac{2}{5} + \frac{1}{10} = \frac{4}{10}$ or $\frac{5}{10}$

1 METER
10 DECIMETERS

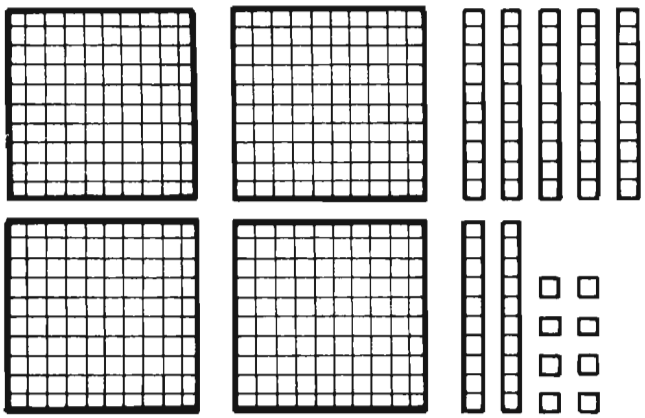
M	dm
1	10
10	100
$\frac{1}{2}$	5
$\frac{1}{10}$	1
$1\frac{3}{10}$	13

$\frac{1}{2}$ OFF

P	$\frac{1}{2}$ P
30¢	15¢
$1.50	75¢
$5.00	$2.50
72¢	36¢
$14.50	$7.25

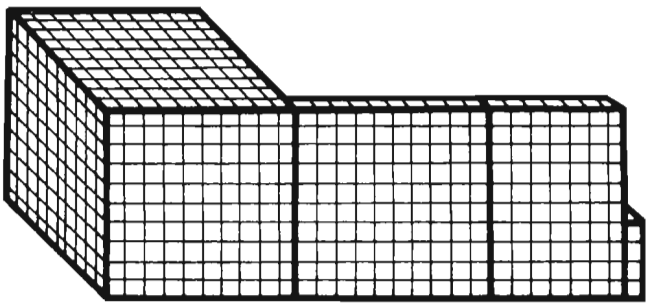
"HOW MANY?"

"¿CUANTOS?"



Total 478 A

478 + 2 = 480 B	478 + 30 = 508 C	475 + 130 = 605 D
478 − 77 = 401 E	478 − 140 = 338 F	478 − 9 = 469 G
245 + 233 = 478 D	245 + 7 = 252 E	248 + 60 = 308 F



Total 1174 A

174 + 8 = 182 B	174 + 18 = 192 C	174 + 28 = 202 D
1,174 + 1,000 = 2174 A	1,174 + 1,315 = 2489 B	1,174 + 900 = 2074 C
1,174 − 174 = 1000 A	1,174 − 175 = 999 B	1,174 − 1,008 = 166 C

Chain Reactions

Reacción en Cadena

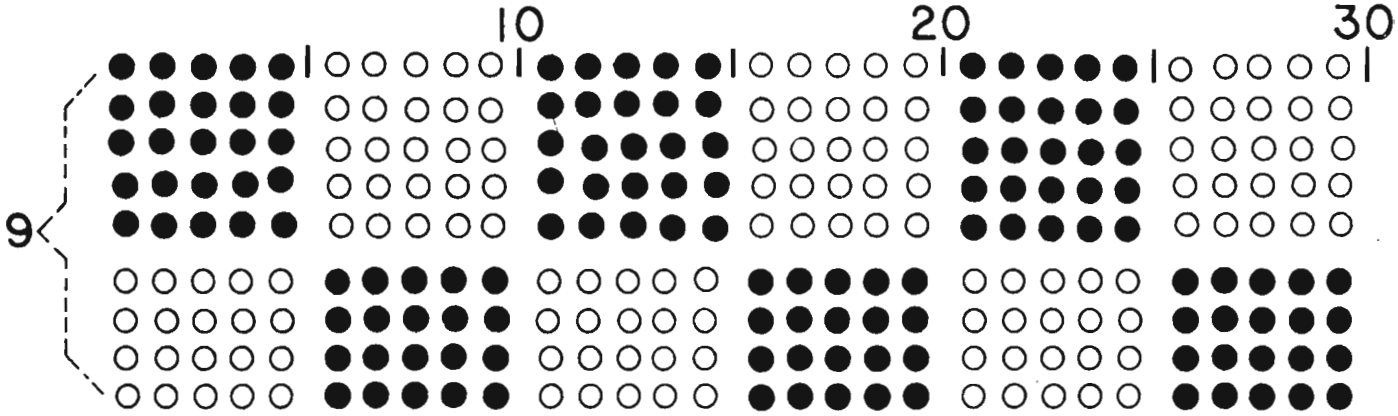
9 +9 18 +9 27 +9 36 +9 45 +9 54 +9 63

25 +6 31 +8 39 −5 34 −9 25 +7 32 +7 39

2 ×2 4 ×3 12 ×5 60 ÷2 30 ÷3 10 ÷5 2

76 −9 67 −9 58 −9 49 −9 40 −9 31 −9 22

	A	B	C
D	605	202	478
E	252	480	401
F	1,174	338	308
G	984	469	508
H	1,000	182	166
I	478	2,489	192
J	2,174	999	2,074



0 × 9	1 × 9	2 × 9	3 × 9	4 × 9	5 × 9	6 × 9	7 × 9	8 × 9	9 × 9	10 × 9	11 × 9	12 × 9	13 × 9
0	9	18	27	36	45	54	63	72	81	90	99	108	117
A	B	C	D	E	F	G	H	I	J	K	A	B	C

5 × 9	10 × 9	15 × 9	30 × 9	60 × 9
45	90	135	270	540
			D	E

4 × 9	20 × 9	24 × 9	48 × 9
36	180	216	432
	F	G	A

9 × 9	40 × 9	49 × 9
81	360	441
	B	C

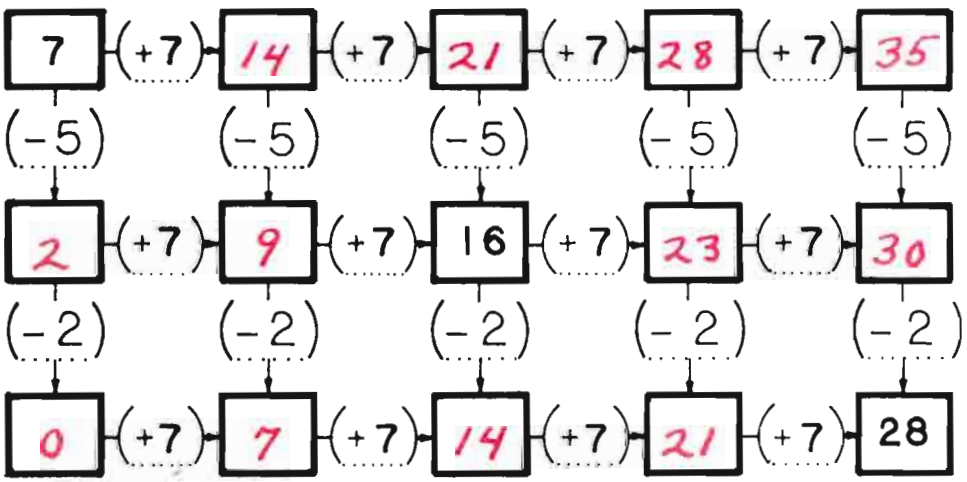
8 × 9	9 × 9	17 × 9	34 × 9
72	81	153	306
		A	B

3 × 9	6 × 9	12 × 9	24 × 9
27	54	108	216
			C

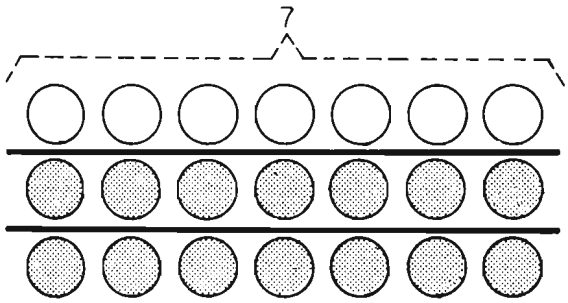
8 × 9	10 × 9	18 × 9	30 × 9
72	90	162	270
		A	D

14 × 9	15 × 9	16 × 9	17 × 9	50 × 9	70 × 9	80 × 9	90 × 9	100 × 9	4 × 9	30 × 9	34 × 9	7 × 9	17 × 9
126	135	144	153	450	630	720	810	900	36	270	306	63	153
		A		E			A	D			H		A

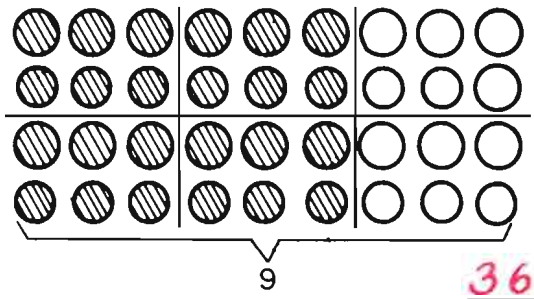
TWO-WAY Chain Reactions Reacción en cadena en DOS MANERAS



	A	B	C	D
E	144	36	450	540
F	162	180	18	45
G	810	9	216	54
H	0	306	63	900
I	432	72	441	27
J	99	360	81	270
K	153	108	117	90



Total 21 A



36 B

$\frac{2}{3}$ of 21 A = 14 B

$\frac{1}{3}$ of 21 A = 7 C

$\frac{3}{3}$ of 21 A = 21 F

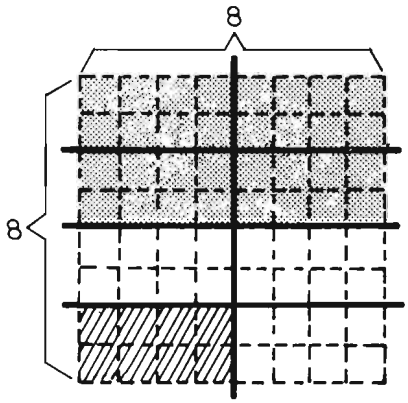
$\frac{3}{3} - \frac{2}{3} = \frac{1}{3}$ D

$\frac{2}{3}$ of 36 B = 24 C

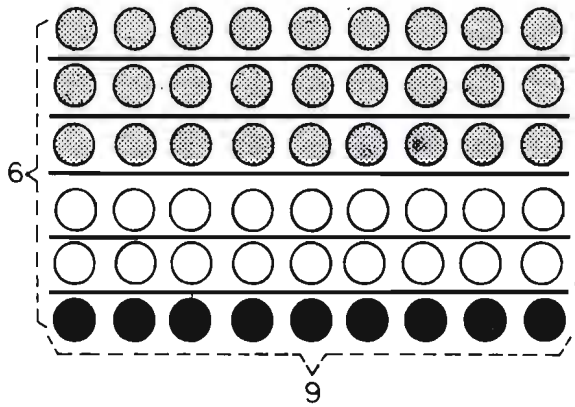
$\frac{1}{6} \times 36$ B = 6 H

$\frac{1}{2} \times 36$ B = 18 J

$\frac{2}{3} - \frac{1}{6} = \frac{3}{6}, \frac{1}{2}$ D



64 C



54 F

$\frac{1}{8}$ of 64 C = 8 A

$\frac{1}{2} \times 64$ C = 32 B

$\frac{3}{8} \times 64$ C = 24 H

$\frac{1}{2} - \frac{1}{8} = \frac{3}{8}$ D

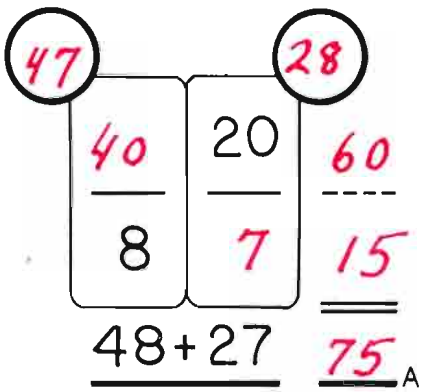
$\frac{1}{6} \times 54$ F = 9 E

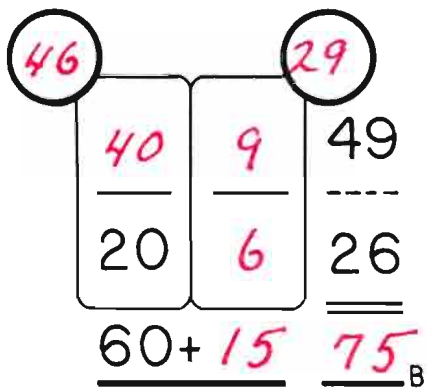
$\frac{1}{3} \times 54$ F = 18 C

$\frac{1}{2} \times 54$ F = 27 A

$\frac{1}{6} + \frac{1}{3} = \frac{3}{6}, \frac{1}{2}$ D

DOMINO PUZZLES ROMPECABEZAS DE DOMINOS

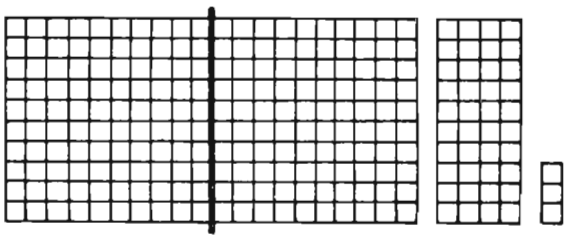




	A	B	C	D
E	18	9		$\frac{1}{9}$
F	21	75	54	$\frac{2}{5}$
G	27	36	7	$\frac{1}{3}$
H	6	42	24	$\frac{3}{4}$
I	75	14	64	$\frac{1}{2}, \frac{3}{6}$
J	8	32	18	$\frac{3}{8}$

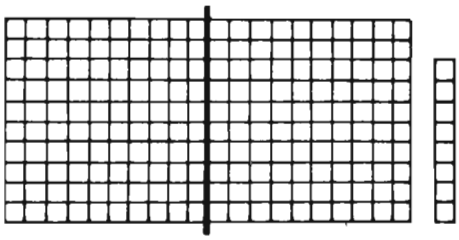
"HOW MANY?"

"¿CUANTOS?"



Total 243 A

150 − 6 = 144 B	200 − 82 = 118 C	240 − 90 = 150 D
243 − 117 = 126 E	1243 − 52 = 1,191 F	743 − 181 = 562 G
373 − 183 = 190 H	373 − 249 = 124 I	783 − 194 = 589 J



Total 208 A

150 + 58 = 208 H	208 − 19 = 189 A	807 − 219 = 588 C
705 − 208 = 497 D	208 × 2 = 416 E	208 × 5 = 1,040 A
208 ÷ 2 = 104 B	104 ÷ 2 = 52 C	208 ÷ 4 = 52 G

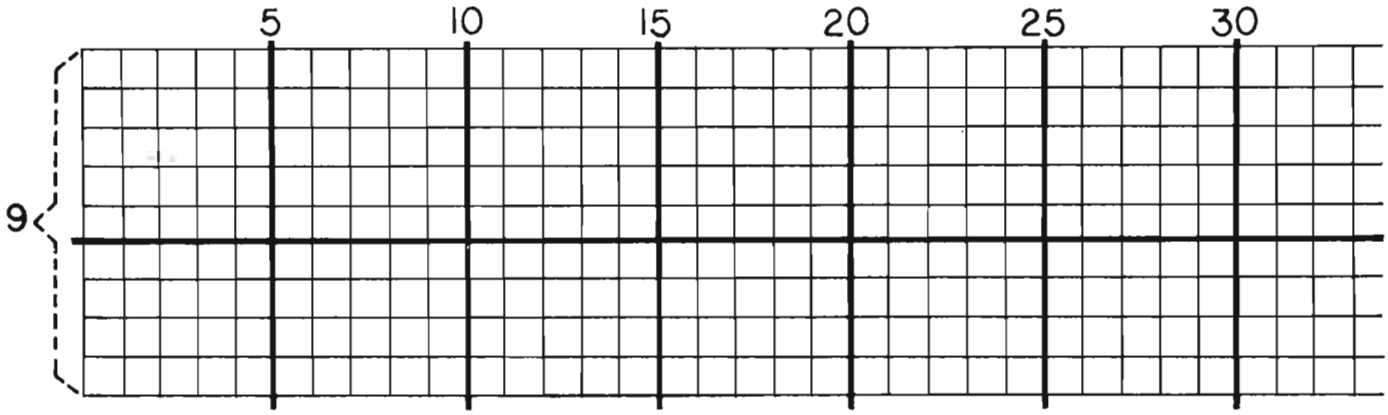
16 's

5	1	2	3	5
4	5	5	6	3
3	5	5	2	8
9	4	6	1	8
7	9	6	8	8

17 's

7	8	2	7	4
7	3	7	2	9
8	7	6	4	8
2	9	2	5	5
4	5	2	6	7

	A	B	C
D	841	497	150
E	243	126	416
F	1,040	144	1,191
G	601	562	52
H	208	190	118
I	189	104	124
J	84	589	588



1	2	3	4	5	6	7	8	9
9|9	9|18	9|27	9|36	9|45	9|54	9|63	9|72	9|81
A	B	C	D	E	F	G	H	I

0	3	10	13
9|0	9|27	9|90	9|117
J		K	A

20	30	40	50
9|180	9|270	9|360	9|450
B	C	D	E

31	30	1	21
9|279	9|270	9|9	9|189
A			B

52	50	2	54
9|468	9|450	9|18	9|486
C			D

89	80	9	84
9|801	9|720	9|81	9|756
E			F

97	90	7	95
9|873	9|810	9|63	9|855
			L

75	70	5	72	77	43	40	3	48
9|675	9|630	9|45	9|648	9|693	9|387	9|360	9|27	9|432
I			L					

49	7	1	
0	6	6	48
			A

49	7	1	
1	3	1	71

49	7	1	
2	0	6	104
			C

64	8	1	
0	7	7	63

64	8	1	
1	4	1	97
			C

64	8	1	
2	4	1	161
			C

81	9	1	
0	8	8	80

81	9	1	
1	2	1	100
			A

81	9	1	
2	3	1	190
			A

	A	B	C	D
E	99	45	89	450
F	13	84	54	36
G	31	180	52	63
H	0,6,6	72	27	54
I	9	75	2,4,1	81
J	0	21	270	360
K	1,2,1	18	2,0,6	10
L	2,3,1	72	1,4,1	95

26 × 0 = 0	26 × 1 = 26	26 × 2 = 52	26 × 3 = 78	26 × 4 = 104	26 × 5 = 130	26 × 6 = 156	26 × 7 = 182	26 × 8 = 208	26 × 9 = 234
			A	B	C	D	E	F	G

26 × 0 = 0	26 × 10 = 260	26 × 20 = 520	26 × 30 = 780	26 × 40 = 1,040	26 × 50 = 1,300	26 × 60 = 1,560	26 × 70 = 1,820	26 × 80 = 2,080	26 × 90 = 2,340
		A	B	C	D	E	F	G	H

26 × 14 = 364	26 × 32 = 832	26 × 29 = 754	26 × 71 = 1,846	26 × 46 = 1,196
	B	C	D	E
26 × 95 = 2,470	26 × 77 = 2,002	26 × 55 = 1,430	26 × 88 = 2,288	26 × 63 = 1,638
F	A	B	C	D

Chain Reactions

Reacciónes en cadena

9 ×2 18 ÷3 6 ÷3 2 B ×2 4 ×9 36 ÷6 6 ÷3 2 ÷2 1

27 ÷9 3 ×7 21 ÷3 7 ×8 56 ÷7 8 ×4 32 ÷2 16 ÷2 8 ×5 40 ÷8 5

G F

5 ×2 10 ×3 30 ÷6 5 ×4 20 ÷5 4 ÷4 1 ×3 3 ×9 27 ÷3 9 ÷9 1

I

2 ×4 8 ×9 72 ÷8 9 ÷3 3 ×2 6 ×5 30

A

49 ÷7 7 ×8 56 ÷7 8 ×9 72 ÷8 9 ÷3 3

E

	A	B	C	D	E	F
G	2,002	780	2,080	234	56	21
H	2,340	1,430	130	1,846	1,196	208
I	78	832	1,040	156	20	1,820
J	72	104	2,288	1,638	1,560	8
K	520	2	754	1,300	182	2,470

$3.60 ..... 1 HOUR

HOURS	total	
1	$3.60	
2	$7.20	B
$\frac{1}{2}$	$1.80	C
$\frac{1}{4}$	$ .90	D
$\frac{1}{3}$	$1.20	E
$2\frac{1}{2}$	$9.00	F
10	$36.00	G

20 miles / gallon

gallons	miles	
2	40	H
1	20	
$\frac{1}{2}$	10	J
$\frac{1}{4}$	5	K
$\frac{3}{4}$	15	A
$3\frac{1}{2}$	70	B
$5\frac{3}{4}$	115	C

$\frac{1}{4}$ OFF

P	$\frac{3}{4}$ P	
$4.00	$3.00	D
40¢	30¢	J
$1.00	75¢	
$2.00	$1.50	G
$1.20	$ .90	D
$10.00	$7.50	H
$8.00	$6.00	I

10 MILLIMETERS
1 CENTIMETER
10MM = 1CM

CM	MM	
1	10	J
3	30	C
10	100	F
$\frac{1}{2}$	5	K
$\frac{1}{10}$	1	A
$2\frac{1}{2}$	25	F
$2\frac{1}{10}$	21	G
$3\frac{9}{10}$	39	D

BOOK
10¢ ea _ 3 for 25¢

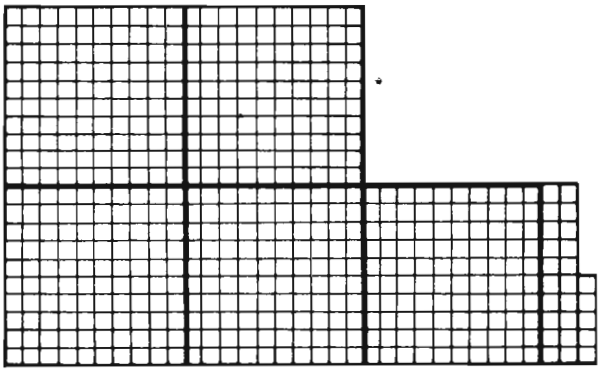
books	TOTAL	
1	10¢	A
3	25¢	
4	35¢	G
5	45¢	B
6	50¢	
7	60¢	G
8	70¢	I
14	$1.20	K

1,000 METERS
1 KILOMETER
1KM = 1,000M

KM	M	
$\frac{1}{2}$	500	J
2	2,000	A
$\frac{1}{10}$	100	F
10	10,000	K

	A	B	C	D	E	F
G	15	60	1.50	35	$2\frac{1}{10}$	36.00
H	3.60	7.50	1.80	3.00	40	75
I	2,000	70	$5\frac{3}{4}$	8.00	$\frac{1}{3}$	$2\frac{1}{2}$
J	10	7.20	30	.90	500	100
K	1	45	1,000	$3\frac{9}{10}$	5	14

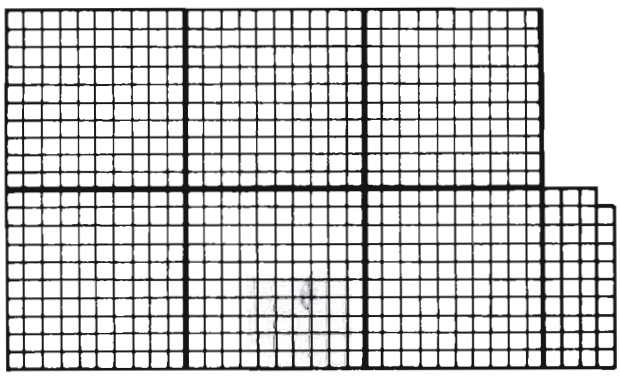
"HOW MANY?"



Total 525 A

"¿CUANTOS?"

400 + 125 = 525 F	525 + 307 = 832 B	525 + 181 = 706 C
525 + 525 = 1,050 D	525 + 175 = 700 E	525 + 199 = 724 F
525 × 2 = 1,050 C	800 − 278 = 522 G	724 − 198 = 526

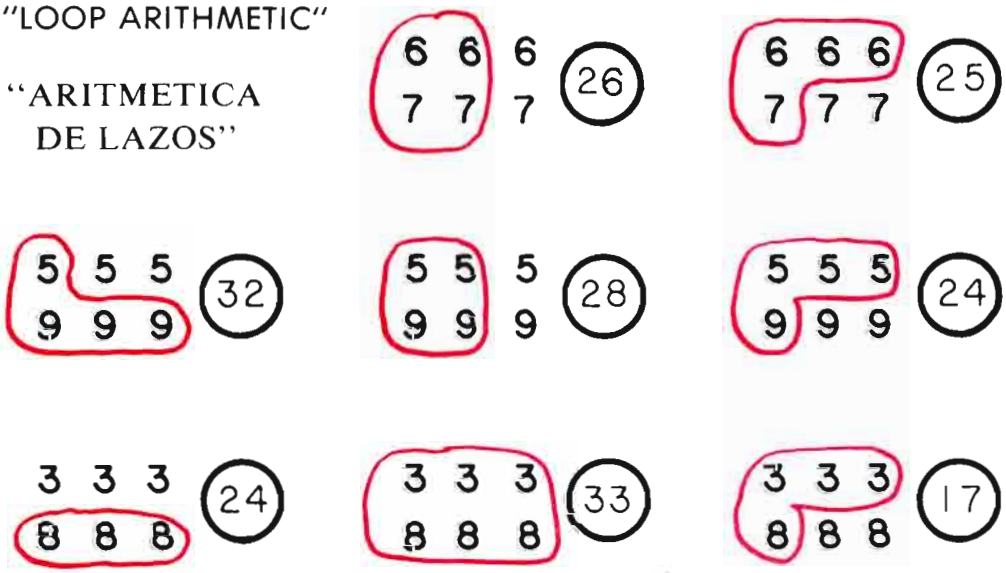


Total 639 A

300 + 339 = 639 H	630 − 140 = 490 B	630 + 75 = 705 C
639 + 61 = 700 B	339 + 339 = 678 C	339 + 393 = 732 D
639 + 361 = 1,000 A	339 × 2 = 678 B	639 ÷ 3 = 213 A

"LOOP ARITHMETIC"

"ARITMETICA DE LAZOS"



	A	B	C
D	1,000	732	1,050
E	338	700	706
F	525	490	724
G	213	832	522
H	639	678	705
I	6,6,7,7	6,6,6,7	678
J	3,3,3,8	5,5,5,9	3,3,3 8,8,8
K	8,8,8	5,5,9,9	5,9,9,9

12 × 0 = 0	12 × 1 = 12	12 × 2 = 24	12 × 3 = 36	12 × 4 = 48	12 × 5 = 60	12 × 6 = 72	12 × 7 = 84	12 × 8 = 96	12 × 9 = 108
			A	B	C	D	E	F	G

12 × 0 = 0	12 × 10 = 120	12 × 20 = 240	12 × 30 = 360	12 × 40 = 480	12 × 50 = 600	12 × 60 = 720	12 × 70 = 840	12 × 80 = 960	12 × 90 = 1,080
		A	B	C	D	E	F	G	H

12 × 2 = 24	12 × 10 = 120	12 × 12 = 144
		A

12 × 4 = 48	12 × 20 = 240	12 × 24 = 288
		B

12 × 8 = 96	12 × 50 = 600	12 × 58 = 696
		C

12 × 9 = 108	12 × 20 = 240	12 × 29 = 348
		D

12 × 3 = 36	12 × 70 = 840	12 × 73 = 876
		E

12 × 6 = 72	12 × 60 = 720	12 × 66 = 792
		F

12 × 9 = 108	12 × 50 = 600	12 × 59 = 708

12 × 3 = 36	12 × 80 = 960	12 × 83 = 996
		J

12 × 7 = 84	12 × 60 = 720	12 × 67 = 804
		K

$38 = 9 \times 4 + \underline{2}$ A

$38 = 5 \times 7 + \underline{3}$ B

$58 = 9 \times 6 + \underline{4}$ C

$43 = 5 \times 8 + \underline{3}$ D

$28 = 5 \times 5 + \underline{3}$ B

$48 = 9 \times 5 + \underline{3}$ L

$43 = 7 \times 6 + \underline{1}$ E

$48 = 6 \times 8 + \underline{0}$ G

$31 = 7 \times 4 + \underline{3}$ B

$78 = 8 \times 9 + \underline{6}$ A

$53 = 7 \times 7 + \underline{4}$ C

$34 = 6 \times 5 + \underline{4}$ F

$65 = 7 \times 9 + \underline{2}$ A

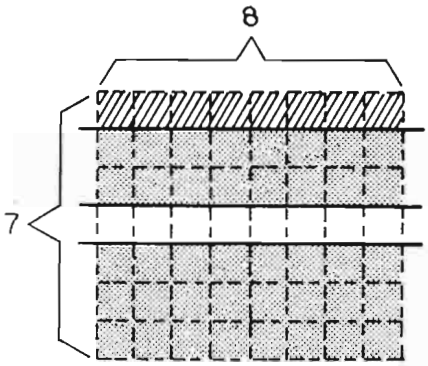
$65 = 8 \times 8 + \underline{1}$ L

$60 = 8 \times 7 + \underline{4}$ C

$40 = 6 \times 6 + \underline{4}$ D

$85 = 9 \times 9 + \underline{4}$ F

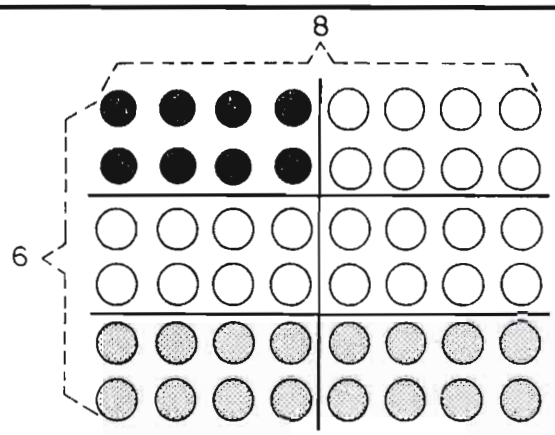
	A	B	C	D	E
F	144	840	4	96	792
G	36	0	108	600	960
H	6	360	60	1,080	84
I	5	48	708	348	720
J	240	288	996	3	876
K	7	804	696	72	5
L	2	3	480	4	1



56 (A)

$\frac{1}{7}$ of 56 (A) = 8 (B) $\quad \frac{2}{7}$ of 56 = 16 (C)

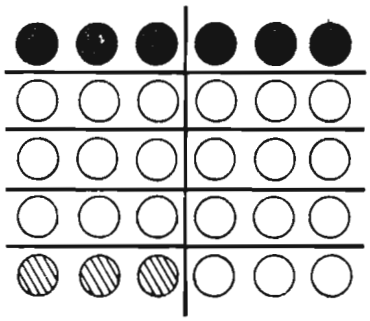
$\frac{3}{7}$ of 56 (A) = 24 (D) $\quad \frac{3}{7} - \frac{1}{7} = \frac{2}{7}$ (E)



48 (A)

$\frac{1}{6}$ of 48 (A) = 8 (B) $\quad \frac{1}{3} \times 48 = 16$ (C)

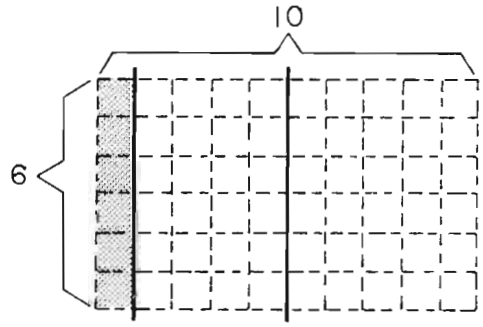
$\frac{1}{2} \times 48$ (A) = 24 (D) $\quad \frac{1}{2} - \frac{1}{6} = \frac{2}{6}, \frac{1}{3}$ (E)



30 (J)

$\frac{1}{5}$ of 30 (J) = 6 (B) $\quad \frac{1}{10} \times 30 = 3$ (C)

$\frac{3}{5} \times 30$ (J) = 18 (D) $\quad \frac{1}{5} - \frac{1}{10} = \frac{1}{10}$ (F)



60 (A)

$\frac{1}{10} \times 60$ (A) = 6 (B) $\quad \frac{4}{10} \times 60 = 24$ (D)

$\frac{1}{2} \times 60$ (A) = 30 (J) $\quad \frac{1}{2} - \frac{4}{10} = \frac{1}{10}$ (C)

Please loop "3 or more neighbors"

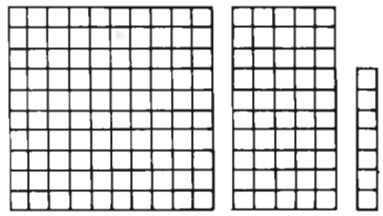
Ponga un lazo alrededor de 3 o "más vecinos"

A	B	C	H	E	F	J
9	9	9	9	9	9	9
4	4	4	4	4	4	4
6	6	6	6	6	6	6
5	5	5	5	5	5	5
7	7	7	7	7	7	7
8	8	8	8	8	8	8
18	19	20	22	24	26	31

	A	B	C	D
E	9,6 4,5	$\frac{2}{7}$	3	$\frac{1}{3}, \frac{2}{6}$
F	56	5,7 8	$\frac{1}{10}$	6,5 7,8
G	6 5,7	6	16	18
H	48	4,6 5,7	5 7,8	24
I	9,4 5,7,8	8	4,6 7,8	4,6 5,7,8
J	60	9 4,6	30	9,4,6 5,7

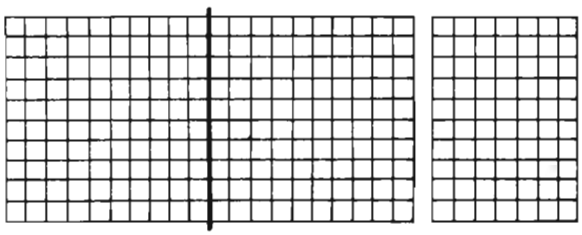
"HOW MANY?"

"¿CUANTOS?"



Total 157 A

150 + 7 = 157 F	150 + 57 = 207 B	157 + 57 = 214 C
157 + 157 = 314 D	314 + 157 = 471 A	200 − 157 = 43 G
157 × 2 = 314 C	157 × 3 = 471 J	314 ÷ 2 = 157 A



Total 270 A

300 − 270 = 30 B	270 − 75 = 195 C	570 − 180 = 390 A
270 + 270 = 540 D	540 + 270 = 810 C	135 + 135 = 270 I
270 × 2 = 540 B	270 ÷ 3 = 90 H	270 ÷ 9 = 30 J

Chain Reactions

Reaccion en cadenas

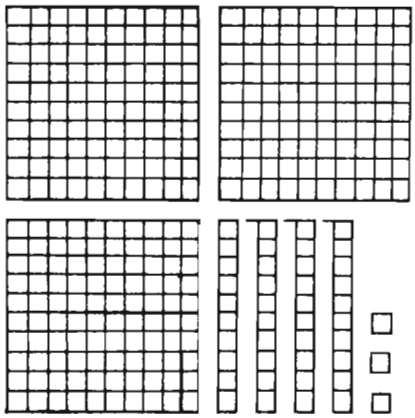
4	+4	8	+4	12	+4	16 C	+4	20	+4	24	+4	28
5	+5	10	+5	15	+5	20 F	+5	25	+5	30	+5	35
9	+9	18	+9	27	+9	36 I	+9	45	+9	54	+9	63
14	+7	21	−8	13	+9	22 A	−7	15	+8	23	−9	14
37	+7	44	−8	36	+9	45 B	−7	38	+8	46	−9	37

	A	B	C
D	51	540	314
E	390	207	16
F	157	45	20
G	22	43	214
H	145	453	90
I	270	36	195
J	471	30	810

Addition

Sumar

343 + 150 = 493	343 + 159 = 502
743 + 197 = 940	743 + 408 = 1151
343 + 343 + 343 = 1029	343 × 3 = 1029



343

Subtraction

Restar

343 − 19 = 324	300 − 43 = 257
743 − 181 = 562	743 − 388 = 355
800 − 7 = 793	312 ÷ 3 = 104

0	1	2	3	4	5	6	7	8	9	10	11	12	13
×9	×9	×9	×9	×9	×9	×9	×9	×9	×9	×9	×9	×9	×9
0	9	18	27	36	45	54	63	72	81	90	99	108	117

20	30	40
×9	×9	×9
180	270	360

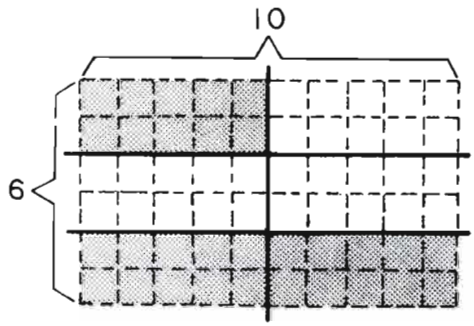
5	25	50
×9	×9	×9
45	225	450

9	69	60
×9	×9	×9
81	621	540

12	24	48
×9	×9	×9
108	216	432

+

10	20	30	40
9|90	9|180	9|270	9|360
8	6	9	7
9|72	9|54	9|81	9|63
18	26	39	47
9|162	9|234	9|351	9|423



60
Total

$\frac{1}{3}$ of 60 = 20

$\frac{1}{6} \times 60 = 10$

$\frac{1}{2} \times 60 = 30$

$\frac{1}{6} + \frac{1}{3} = \frac{1}{2}$ or $\frac{3}{6}$

$\frac{1}{4}$ OFF

P	$\frac{3}{4}$ P
80¢	60¢
$12.00	9.00
40¢	30¢
$1.60	$1.20
$8.00	$6.00

$1 = 10 (10¢)

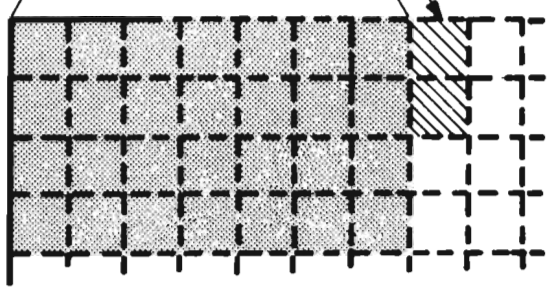
DOLLARS	dimes
2	20
$\frac{1}{2}$	5
$\frac{1}{10}$	1

Division examples with "Remainders" Ejemplos de división con "Restantes"

$4\overline{)30}$? See also: D.I. p. 163 - 168

7 hileras iguales y sobran dos

7 rows alike and 2 left over



ⓐ 7^{R2} $4\overline{)30}$ or ⓑ $7\frac{2}{4}$ $4\overline{)30}$ or ⓒ $7\frac{1}{2}$ $4\overline{)30}$

ⓐ "7 and remainder of 2"

ⓑ "7 and 2 out of the 4 needed" to complete another column

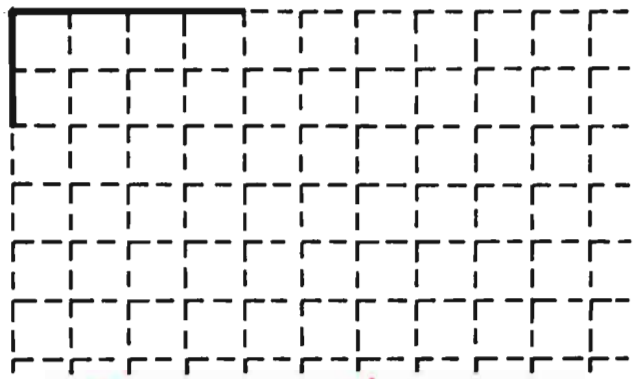
ⓒ "7 and $\frac{1}{2}$ of those needed" to complete another column

ⓐ "7 y restante de 2"

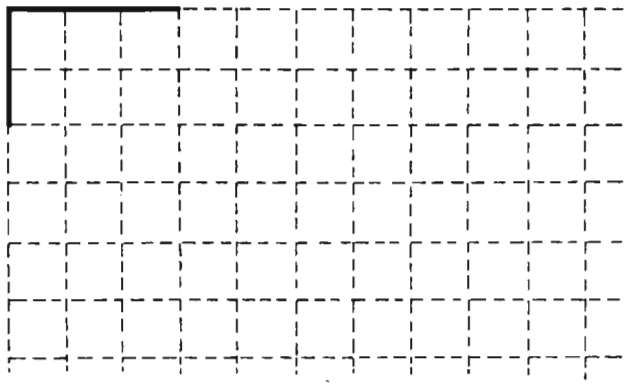
ⓑ "7 y 2 de los 4 se necesitan" para completar otra columna.

ⓒ "7 y ½ de los que se necesitan" para completar otra columna.

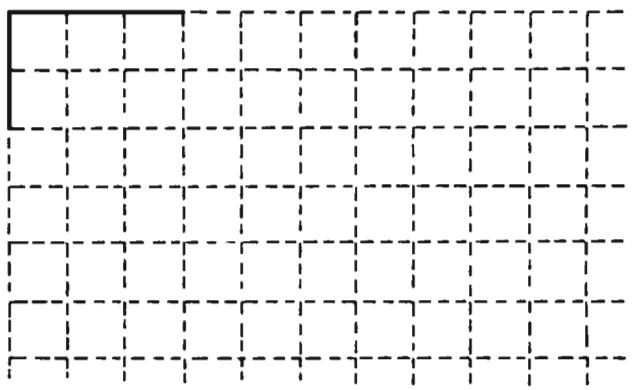
A	B	C	D	E	F	G	H	
$5\frac{1}{2}$	$9\frac{1}{2}$	$8\frac{1}{3}$	$8\frac{1}{2}$	$6\frac{4}{6}$	$6\frac{1}{8}$	$7\frac{3}{5}$	$9\frac{1}{2}$	I
8^{R2}	$9\frac{4}{8}$	$5\frac{1}{2}$	5^{R7}	6^{R4}	$6\frac{2}{3}$	8^{R2}	$8\frac{2}{4}$	J
7^{R3}	$8\frac{2}{6}$	$7\frac{2}{3}$	6^{R4}	4^{R3}	$5\frac{1}{5}$	$6\frac{4}{5}$	7^{R1}	K



6^{R4} D $6\overline{)40}$ or $6\frac{4}{6}$ E $6\overline{)40}$ or $6\frac{2}{3}$ F $6\overline{)40}$



8^{R2} G $4\overline{)34}$ or $8\frac{2}{4}$ H $4\overline{)34}$ or $8\frac{1}{2}$ I $4\overline{)34}$



6^{R4} J $5\overline{)34}$ or $6\frac{4}{5}$ K $5\overline{)34}$

a special problem

un problema especial

6 9 / 704 / − 68 / 3	704 / − 68 / 636	A
4 9 / 500 / − 147	500 / − 147 / 353	B
7 9 / 8,045 / − 2,783 / 2	8,045 / − 2,783 / 5262	C
7 9 / 803 / − 359	803 / − 359 / 444	D
2 9 / 1,300 / − 896	1,300 / − 896 / 404	E
4 / 5,073 / − 1,892	5,073 / − 1,892 / 3181	F

6 9 / 7,004 / − 1,068	6 9 9 / 7,004 / − 1,068	7,004 / − 1,068 / 5936	G
8 / 9,000 / − 1,745	8 9 9 / 9,000 / − 1,745	9,000 / − 1,745 / 7255	H
7 / 8,003 / − 2,359	7 9 9 / 8,003 / − 2,359	8,003 / − 2,359 / 5644	I
1 2 / 13,000 / − 4,896	1 2 9 / 13,000 / − 4,896	13,000 / − 4,896 / 8104	J

29 = 3 × 9 + 2 A
59 = 7 × 8 + 3 B
79 = 8 × 9 + 7 C
59 = 9 × 6 + 5 D
45 = 8 × 5 + 5 E
69 = 7 × 9 + 6 F

49 = 8 × 6 + 1 A
39 = 9 × 4 + 3 B
49 = 7 × 7 + 0 C
79 = 8 × 9 + 7 D
45 = 6 × 7 + 3 E
89 = 9 × 9 + 8 F

49 = 5 × 9 + 4 A
69 = 8 × 8 + 5 B

	A	B	C	D	E
F	7	3	8	3,181	6
G	636	8	5,262	9	5,936
H	4	353	10	7,255	5
I	11	5	5,644	7	404
J	2	8,104	0	5	3
K	12	16	7	444	13
L	1	18	14	17	15

1 P..... 4 ¢
3P..... 10 ¢

total	P	
4 ¢	1	
8 ¢	2	B
10 ¢	3	
14¢	4	D
24 ¢	7	E
34 ¢	10	F
50¢	15	H

15 MILES.....GALLON

MILES	GALLONS	
15	1	
45	3	I
150	10	H
$7\frac{1}{2}$	$\frac{1}{2}$	A
5	$\frac{1}{3}$	B
25	$1\frac{2}{3}$	C
75	5	I

1 DOLLAR= 100¢

dollars	¢	
$ 2	200¢	
$ $\frac{1}{2}$	50¢	D
$ $\frac{3}{4}$	75¢	E
$ 5	500¢	B
$ $3\frac{1}{4}$	325¢	I
$ $1\frac{7}{10}$	170¢	H
$ $2\frac{3}{10}$	230¢	J

1 M = 100 cm

M	cm	
2	200	
$\frac{1}{2}$	50	H
$\frac{3}{4}$	75	E
5	500	I
$3\frac{1}{4}$	325	F
$1\frac{7}{10}$	170	B
$2\frac{3}{10}$	230	F
$\frac{1}{100}$	1	A

$\frac{1}{3}$ OFF

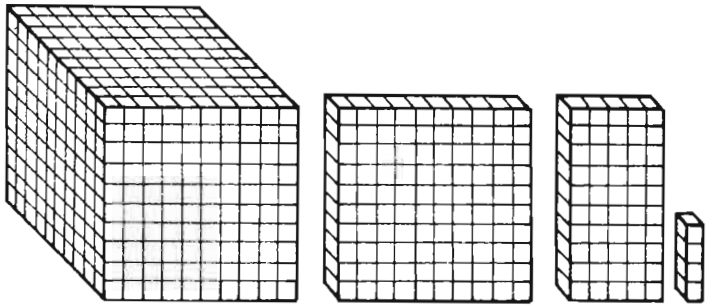
P	$\frac{2}{3}$ P	
30 ¢	20 ¢	
42 ¢	28 ¢	D
27 ¢	18 ¢	F
15 ¢	10 ¢	C
21 ¢	14¢	G
$3.00	$ 2.00	K
$7.50	$ 5.00	J
$1.20	80¢	B

1 HOUR...480 miles

HOURS	miles	
$\frac{1}{2}$	240	
$\frac{1}{4}$	120	K
$\frac{3}{4}$	360	F
$2\frac{1}{2}$	1200	G

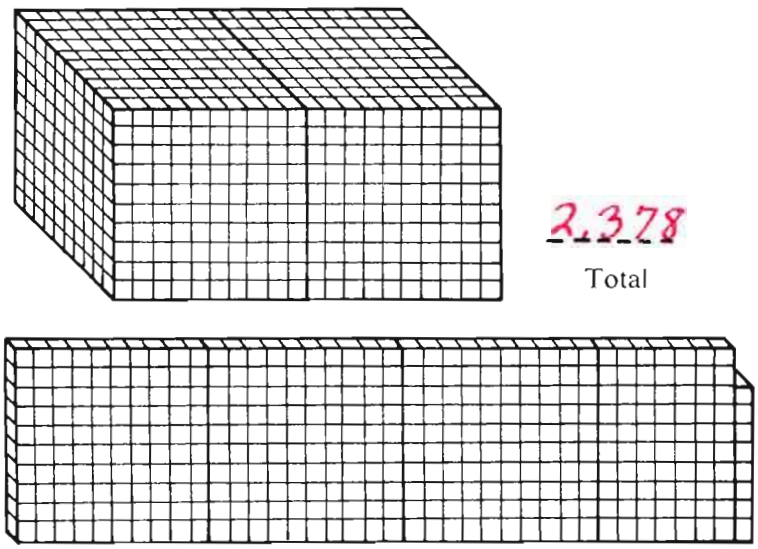
	A	B	C	D	E	F
G	1	8	15	14	1,200	360
H	4	170	25	50	75	10
I	$\frac{1}{2}$	5	3	28	7	325
J	90	2	15	5.00	200	230
K	120	80	2.00	72	240	18

"HOW MANY?" "¿CUANTOS?"



Total 1,154

100 − 45 = 55	145 − 50 = 95	145 − 59 = 86
1,150 − 725 = 425	1,154 − 308 = 846	1,154 − 1,092 = 62
1,154 + 1,154 = 2,308	1,154 × 2 = 2,308	1,154 ÷ 2 = 577



2,378 Total

378 − 109 = 269	378 − 287 = 91	378 − 189 = 189
2,378 − 1,349 = 1,029	2,378 − 1,289 = 1,089	2,378 − 1,419 = 959
2,378 + 2,378 = 4,756	2,378 × 2 = 4,756	2,378 ÷ 2 = 1,189

Please use the smallest whole numbers. Favor de usar los números más pequeños.

4 2 1 / 1 0 1 / 5	9 3 1 / 2 1 2 / 23	16 4 1 / 3 0 1 / 49
25 5 1 / 3 2 4 / 89	36 6 1 / 1 5 1 / 67	49 7 1 / 2 3 6 / 125
64 8 1 / 1 4 4 / 100	81 9 1 / 2 4 2 / 200	100 10 1 / 3 7 6 / 376

How do you feel?
¿Cómo se siente?

15 × 0	15 × 1	15 × 2	15 × 3	15 × 4	15 × 5	15 × 6	15 × 7	15 × 8	15 × 9
0	15	30	45	60	75	90	105	120	135
			A	B	C	D	E	F	G

15 × 0	15 × 10	15 × 20	15 × 30	15 × 40	15 × 50	15 × 60	15 × 70	15 × 80	15 × 90
0	150	300	450	600	750	900	1,050	1,200	1,350
		H	I	J	A	B	C	D	E

15) 379 = 25 R4
300
79
75
4

L: 15) 187 = 12 R7
150
37
30
7

K: 15) 971 = 64 R11
900
71
60
11

M: 15) 1292 = 86 R2
1200
92
90
2

K: 15) 861 = 57 R6
750
111
105
6

M: 15) 1396 = 93 R1
1350
46
45
1

L: 15) 464 = 30 R14
450
14
00
14

K: 15) 703 = 46 R13
600
103
90
13

Smallest Numbers . . . / Numerós más pequeños...

25	5	1	Number	
4	1	3	108	M
2	4	3	73	K
4	4	4	124	
3	0	4	79	L
1	4	2	47	M
3	4	1	96	
4	2	2	112	K
3	3	3	93	L
0	4	4	24	
2	3	0	65	M
3	0	0	75	
2	4	4	74	M

	K	L	M
A	750	45	1,4,2
B	60	3,0,4	900
C	R13 46	1,050	75
D	1,200	90	2,3,0
E	4,2,2	1,350	105
F	120	R7 12	2,4,4
G	R11 64	R14 30	135
H	2,4,3	300	R2 86
I	R6 57	450	4,1,3
J	600	3,3,3	R1 93

13's

4	4	4	3	9
1	6	1	1	4
5	7	3	4	3
5	3	5	2	6
5	6	2	9	2

14's

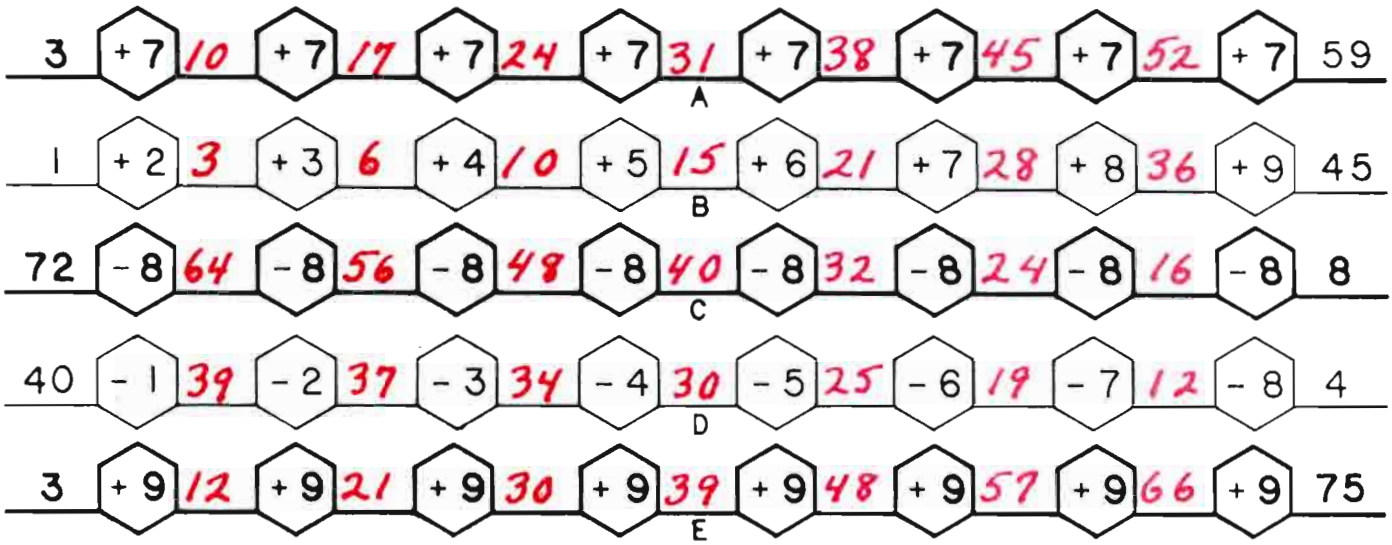
3	5	7	2	5
6	1	7	5	8
4	6	5	9	1
7	3	4	5	2
5	3	3	3	3

15's

7	6	5	4	4
1	3	4	6	7
1	3	6	8	4
6	3	9	3	4
8	7	4	4	3

Chain Reactions

Reacción en cadena



47 = 6 × 7 + 5 ____ F

44 = 8 × 5 + 4 ____ F

65 = 8 × 8 + 1 ____ G

59 = 6 × 9 + 5 ____ G

65 = 9 × 7 + 2 ____ A

59 = 7 × 8 + 3 ____ A

38 = 7 × 5 + 3 ____ B

49 = 9 × 5 + 4 ____ B

50 = 8 × 6 + 2 ____ C

39 = 6 × 6 + 3 ____ C

50 = 7 × 7 + 1 ____ D

89 = 9 × 9 + 8 ____ D

75 = 8 × 9 + 3 ____ E

35 = 4 × 8 + 3 ____ E

	H	I	J
A	2	3	31
B	4	15	3
C	40	2	3
D	1	30	8
E	3	39	3
F	5	7	4
G	8	5	1

Addition and Subtraction — Sumar y Restar

15 − 23 − 8	20 − 37 − 17	35 − 43 − 8	31 − 50 − 19
18 − 23 − 5	25 − 37 − 12	26 − 43 − 17	26 − 50 − 24
13 − 23 − 10	31 − 37 − 6	23 − 43 − 20	42 − 50 − 8

29 − 43 − 14	30 − 50 − 20		
15	10		

---

312 312 + 312 936 A	468 468 + 468 1,404 B	1,425 1,425 + 1,425 4,275 C	72,416 72,416 + 72,416 217,248 D
234 234 + 234 702 A	957 957 + 957 2,871 B	8239 8239 + 8239 24,717 C	98236 98236 + 98236 294,708 D

---

25 × 1	25 × 2	25 × 4	25 × 7	25 × 8
25	50	100	175	200
	D	E	F	G

25 × 20	25 × 30	25 × 50	25 × 60	25 × 90
500	750	1,250	1,500	2,250
C	D	E	F	G

3 | 174 — 58 E

7 | 1827 — 261 F

8 | 1656 — 207 G

25 | 925 — 37 E

750

175

175

25 | 1300 — 52 F

1250

50

50

25 | 2425 — 97 G

2250

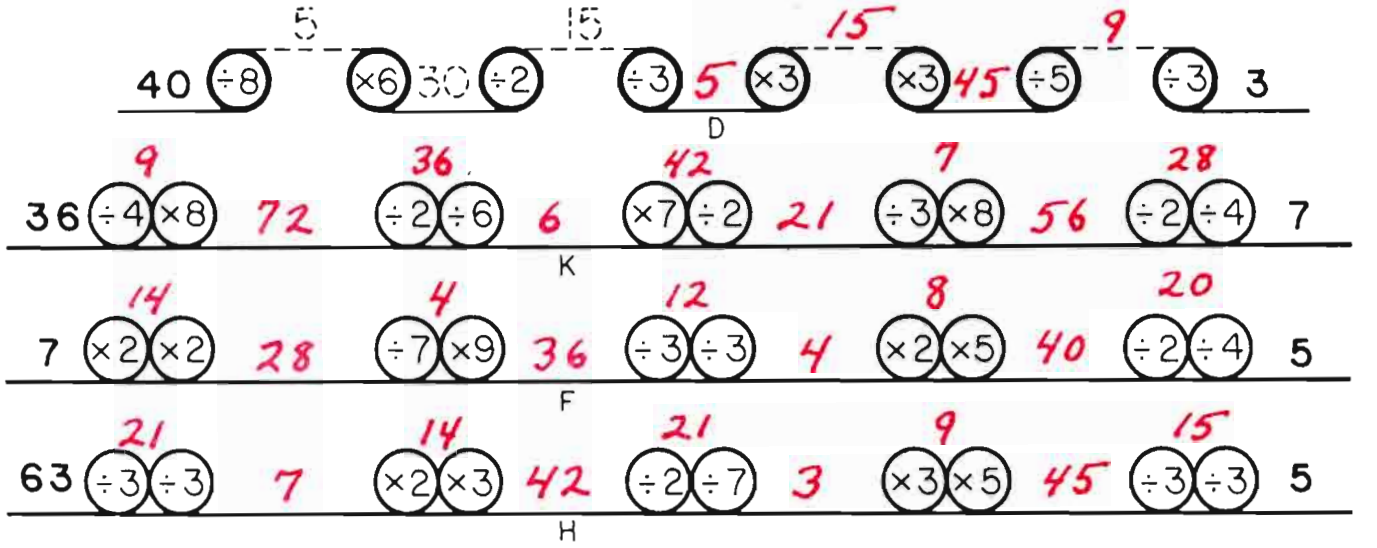
175

175

	H	I	J	K
A	902	842	936	702
B	2,871	1,404	2,173	1,324
C	4,275	500	24,717	3,695
D	750	294,708	50	217,248
E	100	58	1,250	37
F	261	1,500	175	52
G	200	97	207	2,250

CHAIN REACTIONS

REACCIÓN EN CADENA



Please use the smallest whole numbers

Favor de usar los números más pequeños

16	8	4	2	1	
0	0	1	1	1	7 F

27	9	3	1	
0	2	2	1	25 A

25	5	1	
1	4	3	48 I

16	8	4	2	1	
0	1	1	1	0	14 J

27	9	3	1	
1	2	1	2	50 A

25	5	1	
2	3	2	67 F

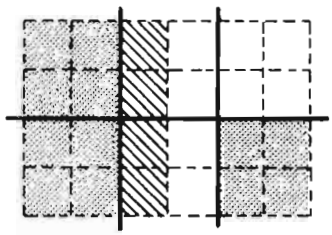
16	8	4	2	1	
1	0	1	1	1	23 K

27	9	3	1	
2	1	2	0	69 A

25	5	1	
3	4	3	98 I

$\frac{1}{3}$ of 24 = 8 B

$\frac{1}{2} \times 24 = 12$ C



24 H
Total

$\frac{1}{6} \times 24 = 4$ I $\quad \frac{5}{6} \times 24 = 20$ I $\quad \frac{6}{6} \times 24 = 24$ J

$\frac{1}{4} \times 24 = 6$ J

$\frac{2}{3} \times 24 = 16$ D

$\frac{3}{4} \times 24 = 18$ E

$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$ B $\quad \frac{3}{4} - \frac{1}{2} = \frac{1}{4}$ K

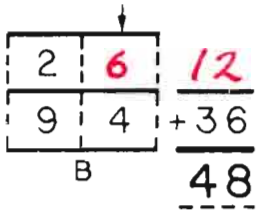
$\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$ C $\quad \frac{5}{6} - \frac{1}{3} = \frac{1}{2}, \frac{3}{6}$

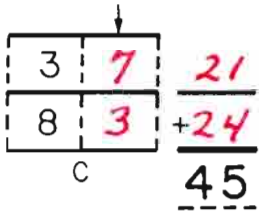
$\frac{1}{6} + \frac{1}{3} = \frac{1}{2}, \frac{3}{6}$ $\quad \frac{5}{6} - \frac{1}{2} = \frac{1}{3}, \frac{2}{6}$ C

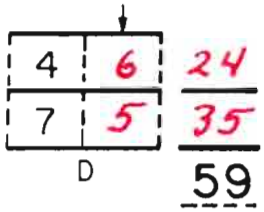
	H	I	J	K
A	2,2,2,1	0,2,2,1	2,1,2,0	1,2,1,2
B	$\frac{2}{3}$	8	6	$\frac{1}{4}$
C	$\frac{1}{3}, \frac{2}{6}$	4	12	$\frac{3}{4}$
D	17	20	16	5
E	42	18	24	6
F	36	3,4,3	0,0,1,1,1	2,3,2
G	24	1,4,3	0,1,1,1,0	1,0,1,1,1

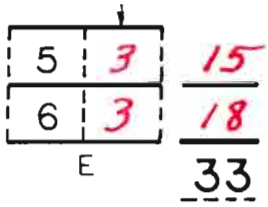
Please use the "smallest numbers" under the arrows

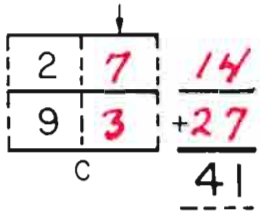
Favor de usar
"los números más pequeños"
debajo de las flechas.

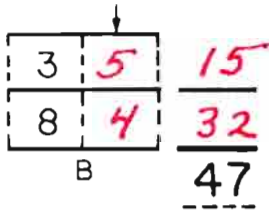


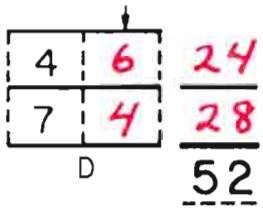


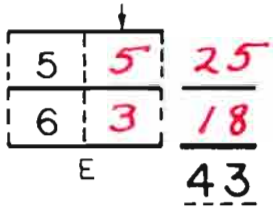






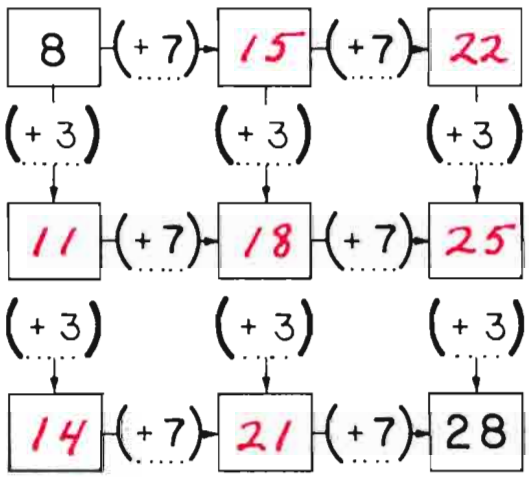


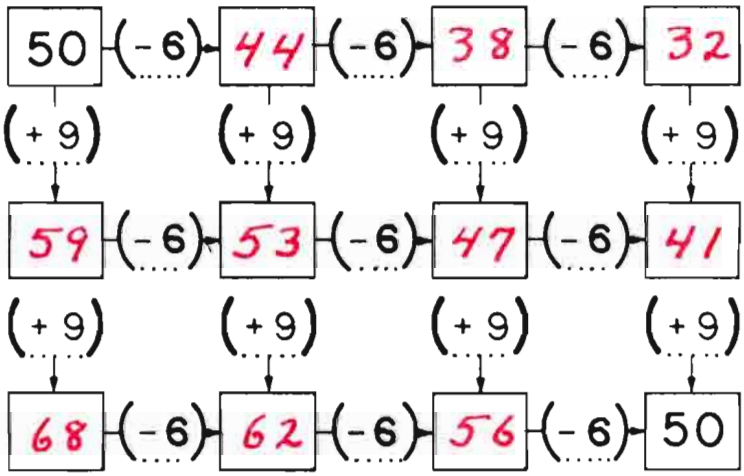




TWO-WAY Chain Reactions

Reacción en Cadena en DOS MANERAS.





18 × 1 = 18	18 × 2 = 36	18 × 4 = 72	18 × 7 = 126	18 × 8 = 144
		F	G	I

18 × 20 = 360	18 × 30 = 540	18 × 50 = 900	18 × 60 = 1080	18 × 90 = 1620
	K	F	G	H

$$\begin{array}{r} 18 \\ \times\ 21 \\ \hline 180 \\ 360 \\ \hline 378 \end{array}$$ H

$$\begin{array}{r} 18 \\ \times\ 38 \\ \hline 144 \\ 540 \\ \hline 684 \end{array}$$ J

$$\begin{array}{r} 18 \\ \times\ 52 \\ \hline 36 \\ 900 \\ \hline 936 \end{array}$$ D

$$\begin{array}{r} 18 \\ \times\ 96 \\ \hline 108 \\ 1620 \\ \hline 1728 \end{array}$$ E

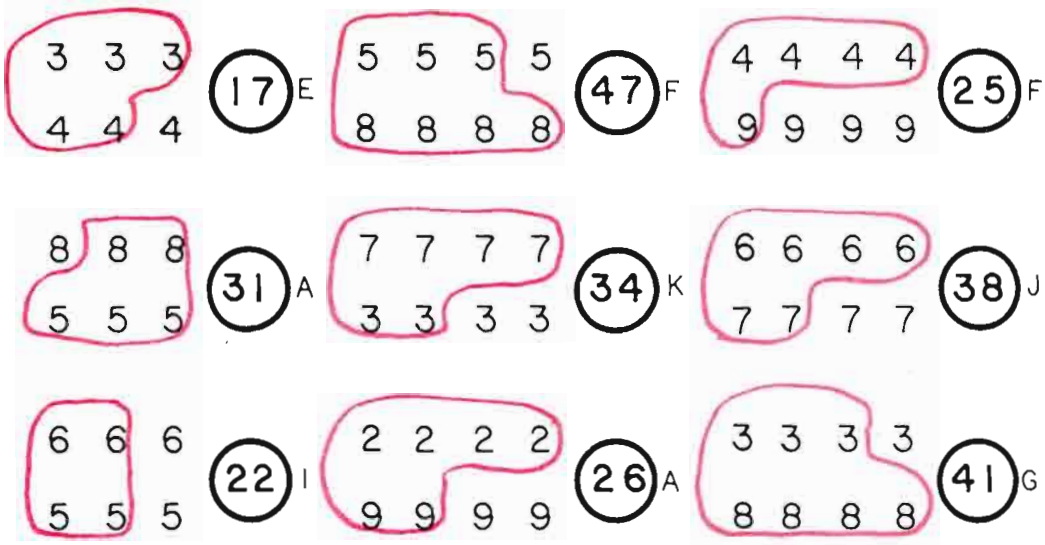
$$\begin{array}{r} 18 \\ \times\ 57 \\ \hline 126 \\ 900 \\ \hline 1026 \end{array}$$ D

$$\begin{array}{r} 18 \\ \times\ 64 \\ \hline 72 \\ 108 \\ \hline 1152 \end{array}$$ H

	H	I	J	K
A	880	7,2	420	6,5
B	4,4	6,4	486	5,4
C	378	5,4	684	7,3
D	1,026	6,5	936	6,4
E	1,152	5,3	1,728	3,3
F	1,620	72	410	900
G	1,080	144	126	540

Loop Arithmetic

Aritmética de lazo



Please extend the patterns

Favor de extender las muestras.

0 . 1 . 1 . 2 . 3 . 5 . 8 . 13 (A) . 21 . 34 . 55 . 89 . 144 . 233

5 . 11 . 17 . 23 . 29 (B) . 35 . 41 . 47 . 53 . 59 . 65 . 71 . 77 . 83

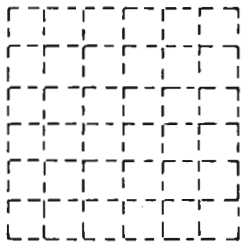
5 . 12 . 19 . 26 (G) . 33 . 40 . 47 . 54 . 61 . 68 . 75 . 82 . 89 . 96

5 . 13 . 21 . 29 (H) . 37 . 45 . 53 . 61 . 69 . 77 . 85 . 93 . 101 . 109

5 . 14 . 23 . 32 (I) . 41 . 50 . 59 . 68 . 77 . 86 . 95 . 104 . 113 . 122

$\frac{1}{2}$ of 36 = 18 B

$\frac{1}{3} \times 36 = 12$ K



36 I
Total

$\frac{3}{4} \times 36 = 27$ C

$\frac{5}{9} \times 36 = 20$ D

$\frac{1}{4} \times 36 = 9$ C

$\frac{1}{6} \times 36 = 6$ D

$\frac{1}{9} \times 36 = 4$ J

$\frac{2}{3} \times 36 = 24$ K

$\frac{1}{4} + \frac{1}{2} = \frac{3}{4}$	$\frac{1}{3} - \frac{1}{6} = \frac{1}{6}$	
$\frac{1}{3} + \frac{1}{6} = \frac{1}{2} + \frac{3}{6}$	$\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$	
$\frac{1}{6} + \frac{1}{6} = \frac{1}{3} + \frac{2}{6}$	$\frac{5}{9} - \frac{4}{9} = \frac{1}{9}$	

	H	I	J	K
A	13	32	8.8 5.5.5	2.2.2.2 9.9
B	29	36	18	24
C	41	27	9	12
D	53	20	4	6
E	9	6.6 5.5	3.3.3 4.4	7.7.7.7 3.3
F	4.4.4 7	5.5.5 8.8.8.8	6.6.6.6 7.7	4.4.4.4 9
G	26	3.3.3 8.8.8.8	5 9.9.9	7.7.7 8.8.8

16's

5	2	2	4	3
11	3	7	2	7
2	9	3	4	5
5	4	4	4	5
8	3	4	5	1

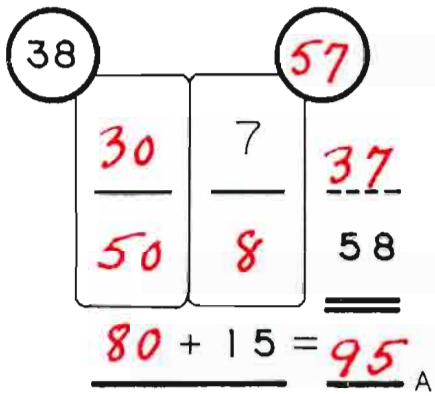
17's

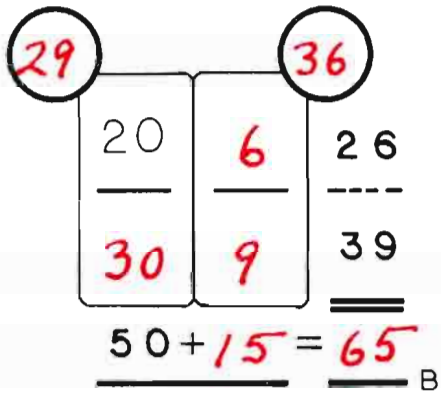
2	4	3	5	6
9	7	9	5	6
6	6	8	2	3
1	8	9	10	4
8	6	2	2	5

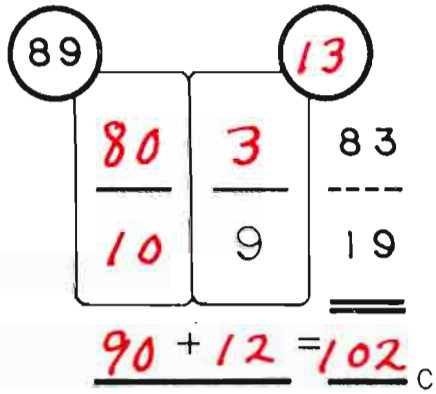
18's

5	6	6	9	9
6	6	7	2	4
3	4	8	8	5
7	6	8	2	7
8	3	4	9	2

DOMINO PUZZLES — ROMPECABEZAS DE DOMINOS







37 × 1	37 × 2	37 × 4	37 × 7	37 × 8
37	74	148	259	296
H	K	I	C	H

37 ×20	37 ×30	37 ×50	37 ×60	37 ×90
740	1110	1850	2220	3330
E				

37 × 51 = 37 + 1850 = 1887 D

37 × 18 = 296 + 370 = 666 E

37 × 23 = 111 + 740 = 851 F

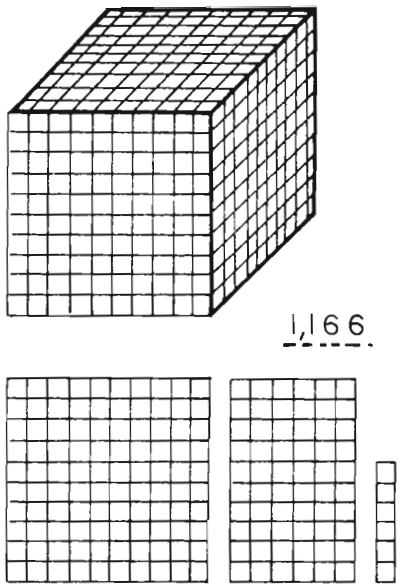
37 × 62 = 74 + 2220 = 2294 G

37 × 37 = 259 + 1110 = 1369 J

37 × 94 = 148 + 3330 = 3478 D

	H	I	J	K
A	95	85	106	74
B	37	75	65	83
C	296	148	102	259
D	2,567	3,478	1,887	2,918
E	1,111	740	666	1,578
F	2,245	851	1,369	1,001
G	849	2,294	2,174	643

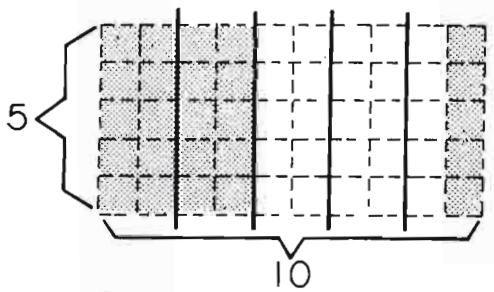
1,166 + 108 1274	166 + 783 949	1,166 − 159 1007	1,166 − 77 1089
1,083 + 83 1166	1,166 + 1,999 3165	2,166 − 729 1437	7,166 − 1598 5568
166 166 166 + 166 664	367 82 197 + 56 702	1,166 ÷ 2 583	1,166 × 2 2332



13 ×2 26	13 ×3 39	13 ×4 52	13 ×5 65	13 ×6 78	13 ×7 91	13 ×8 104	13 ×9 117	13 ×10 130	13 ×20 260	13 30 390	13 ×40 520	13 ×50 650	13 ×60 780

13 × 49 117 520 637	13 × 25 65 26 325
13 × 67 91 78 871	13 × 58 104 65 754

$6\overline{)45}$ 7 R3	$7\overline{)50}$ 7 R1	$8\overline{)60}$ 7 R4	$9\overline{)75}$ 8 R3
$6\overline{)65}$ 10 R5	$7\overline{)67}$ 9 R4	$8\overline{)75}$ 9 R3	$9\overline{)50}$ 5 R5
$6\overline{)33}$ 5 R3	$7\overline{)57}$ 8 R1	$8\overline{)65}$ 8 R1	$9\overline{)85}$ 9 R4



50
Total

$\frac{2}{5}$ of 50 = 20

$\frac{1}{2} \times 50 = 25$

$\frac{1}{10} \times 50 = 5$

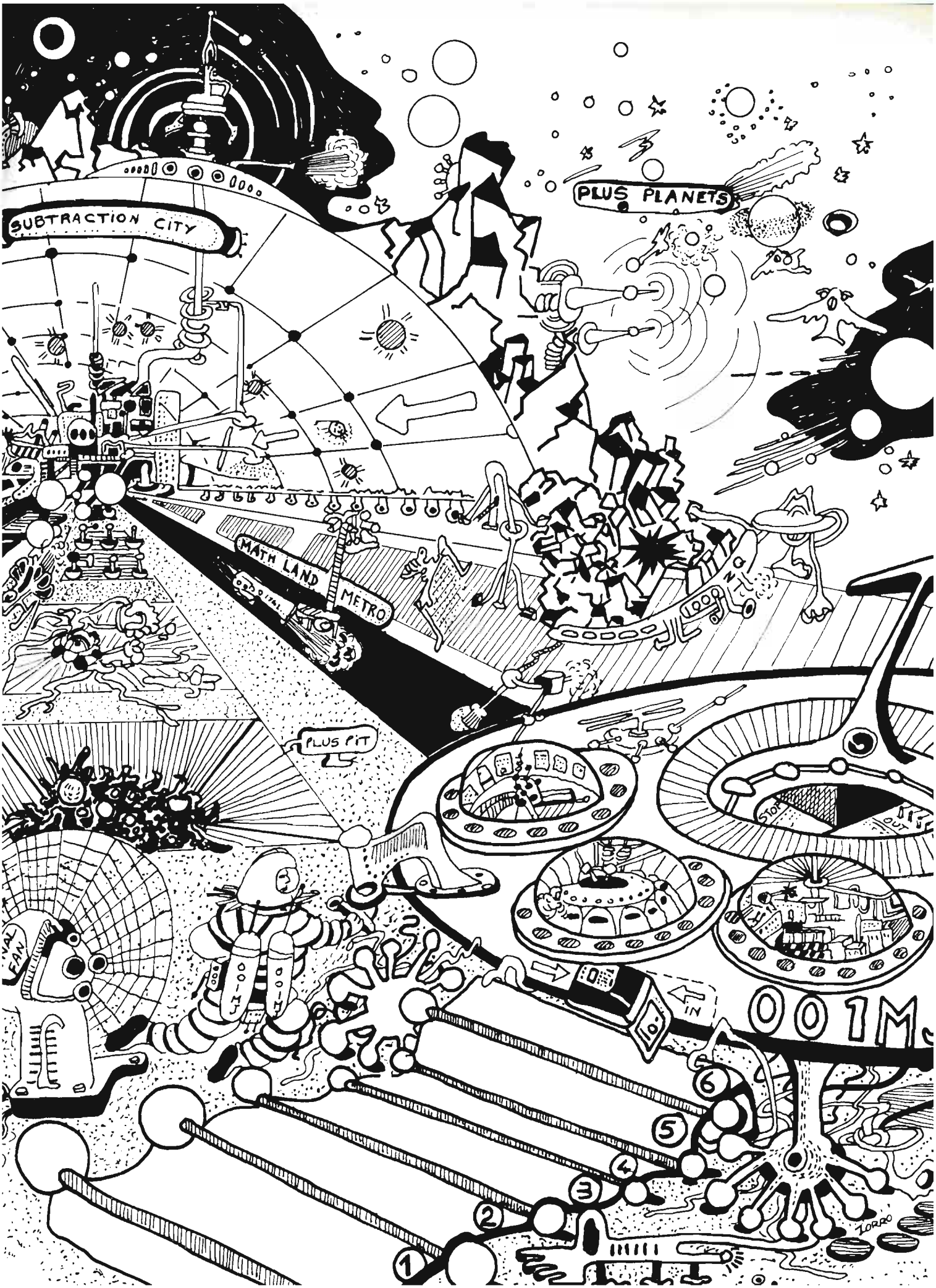
$\frac{1}{10} + \frac{2}{5} = \frac{1}{2}$, $\frac{5}{10}$

N = $2\frac{1}{2}$¢

1 Hr....150miles

N	total
4¢	10¢
10¢	25¢
36¢	90¢
60¢	$1.50
50¢	$1.25

Hrs.	miles
$\frac{1}{2}$	75
$\frac{1}{5}$	30
$1\frac{1}{10}$	165


SUBTRACTION CITY
PLUS PLANETS
MATH LAND METRO
PLUS PIT
001M
IN
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1
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