

*answers &
annotations*

Individualized Computation

f_1





Cover Art
The class of Pat Spencer at La Mesa
School.

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What Can You See?

¿Qué Puede Usted Ver?

$$\begin{array}{r} 26 \\ \times 2 \\ \hline 52 \end{array}$$

$$\begin{array}{r} 24 \\ \times 2 \\ \hline 48 \end{array}$$

B

$$\begin{array}{r} 24 \\ \times 3 \\ \hline 72 \end{array}$$

C

$$\begin{array}{r} 24 \\ \times 4 \\ \hline 96 \end{array}$$

D

$$\begin{array}{r} 24 \\ \times 5 \\ \hline 120 \end{array}$$

A

Figure 1 illustrates the multiplication of 2 by 13, 15, and 17 using arrays and standard algorithms. Each example shows an array of objects, a standard multiplication algorithm, and the result.

- 13 × 2:** The array shows 2 rows of 13 objects each. The standard algorithm shows $13 \times 2 = 26$. The result is 26.
- 15 × 2:** The array shows 2 rows of 15 objects each. The standard algorithm shows $15 \times 2 = 30$. The result is 30.
- 17 × 2:** The array shows 2 rows of 17 objects each. The standard algorithm shows $17 \times 2 = 34$. The result is 34.

Figure 10 shows three examples of multiplication problems (A, B, and C) illustrating the distributive property. Each example includes a multiplication problem, an area model, and an array.

Example A: The multiplication problem is $13 \times 3 = 39$. The area model shows a rectangle divided into three equal parts, each representing 13×1 . The array shows three rows of 13 units each, totaling 39 units.

Example B: The multiplication problem is $15 \times 3 = 45$. The area model shows a rectangle divided into three equal parts, each representing 15×1 . The array shows three rows of 15 units each, totaling 45 units.

Example C: The multiplication problem is $17 \times 3 = 51$. The area model shows a rectangle divided into three equal parts, each representing 17×1 . The array shows three rows of 17 units each, totaling 51 units.

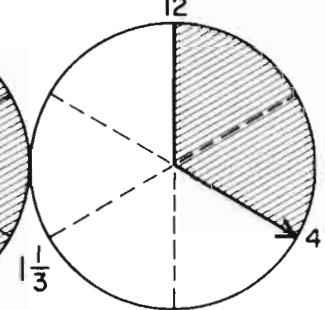
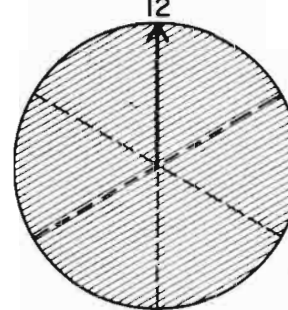
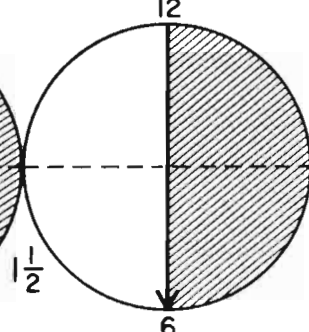
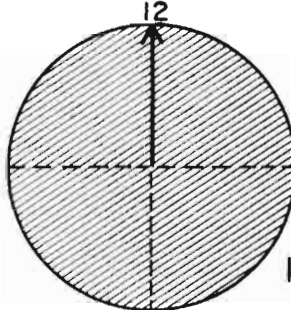
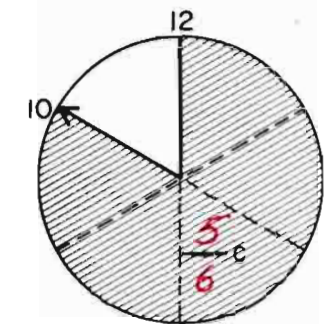
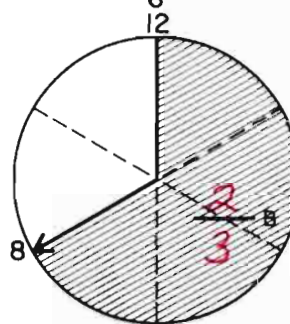
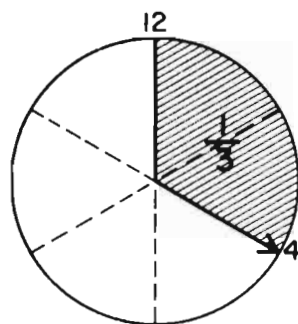
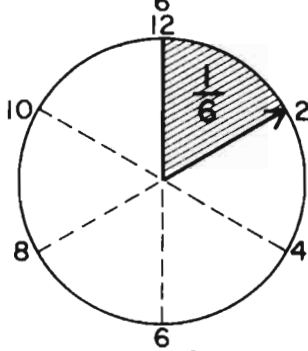
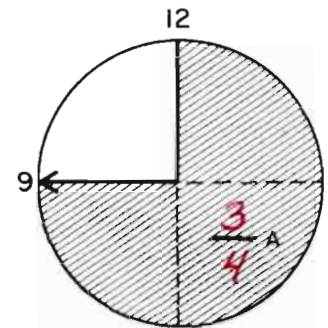
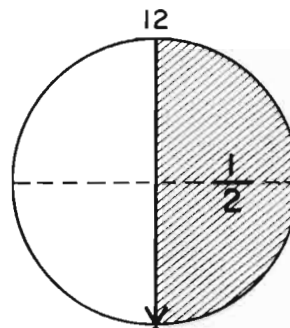
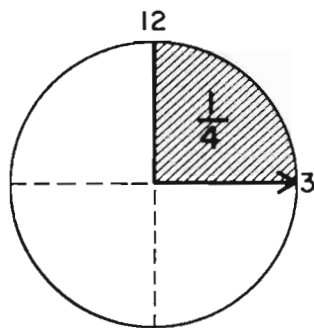
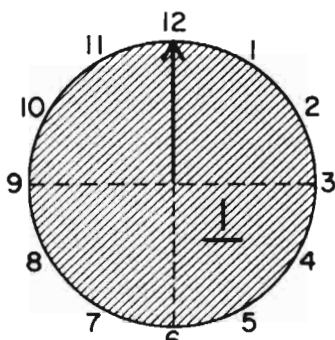
Figure 10 illustrates two different strategies for calculating 13×4 . On the left, a student uses a standard algorithm, showing the multiplication $13 \times 4 = 52$. On the right, a student uses a strategy of doubling, showing the calculation $15 \times 4 = 60$. The figure includes base ten blocks and area models for each method.

See also:
Drill & Practice
pp. 121A-123D

A	B	C	D
39	48	30	60
120	45	72	34
52	26	51	96

What Can You See?

¿Qué Puede Usted Ver?



$$\frac{1}{2} + \frac{1}{4} = \frac{3}{4} \text{ A}$$

$$\frac{1}{2} - \frac{1}{4} = \frac{1}{4} \text{ B}$$

$$\frac{1}{4} + \frac{1}{4} = \frac{1}{2} \text{ C}$$

$$1 - \frac{1}{4} = \frac{3}{4} \text{ A}$$

$$\frac{1}{6} + \frac{1}{6} = \frac{1}{3} \text{ A}$$

$$\frac{1}{3} + \frac{1}{3} = \frac{2}{3} \text{ B}$$

$$1 - \frac{1}{6} = \frac{5}{6} \text{ C}$$

$$\frac{1}{3} - \frac{1}{6} = \frac{1}{6}$$

$$1 - \frac{1}{2} - \frac{1}{4} = \frac{1}{4} \text{ D}$$

$$1 - \frac{1}{2} - \frac{3}{4} = \frac{3}{4} \text{ A}$$

$$1 - \frac{1}{3} - \frac{1}{6} = \frac{1}{6} \text{ D}$$

$$1 - \frac{1}{3} - \frac{2}{3} = \frac{2}{3} \text{ B}$$

$$1 - \frac{1}{3} = \frac{2}{3} \text{ B}$$

$$\frac{1}{3} + \frac{1}{6} = \frac{1}{2} \text{ C}$$

$$\frac{1}{2} - \frac{1}{6} = \frac{1}{3} \text{ A}$$

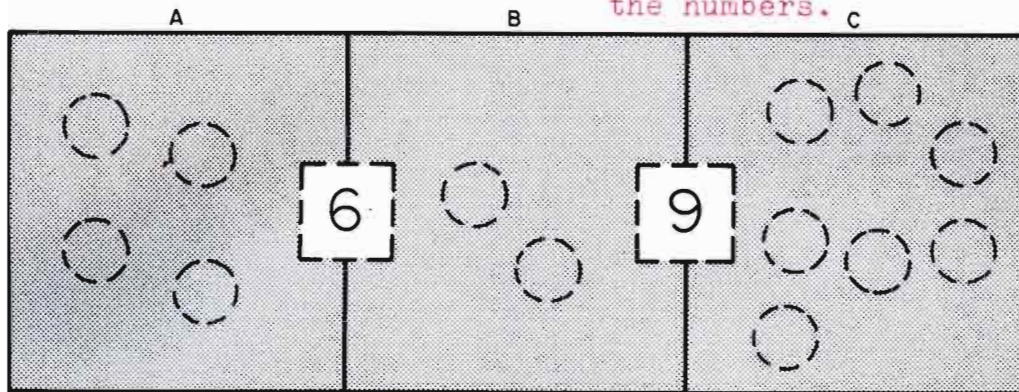
A	B	C	D
$\frac{3}{4}$	$\frac{5}{6}$	$\frac{1}{2}$	$\frac{1}{6}$
$\frac{1}{3}$	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{1}{4}$
$\frac{1}{3}$	$\frac{1}{4}$	$\frac{5}{6}$	$\frac{1}{2}$

See also: D&P 222-230

Three-way Puzzles

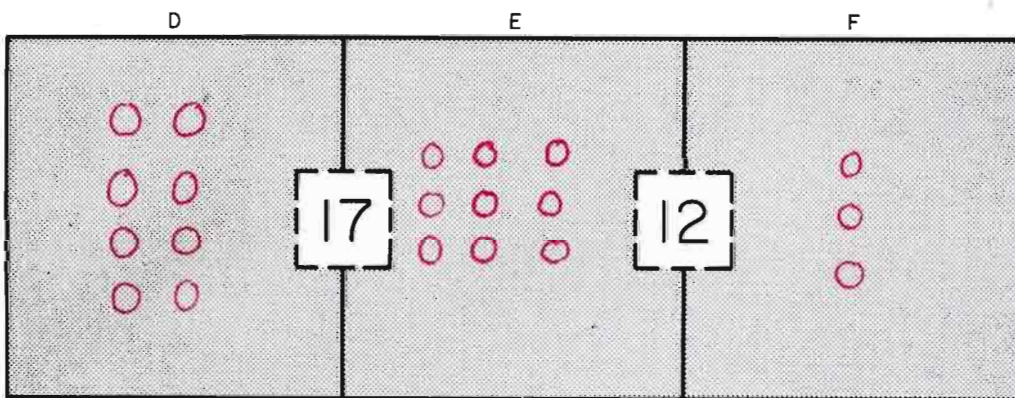
Rompecabezas de Tres Maneras.

The children may want to use beans to try these out before writing down the numbers.



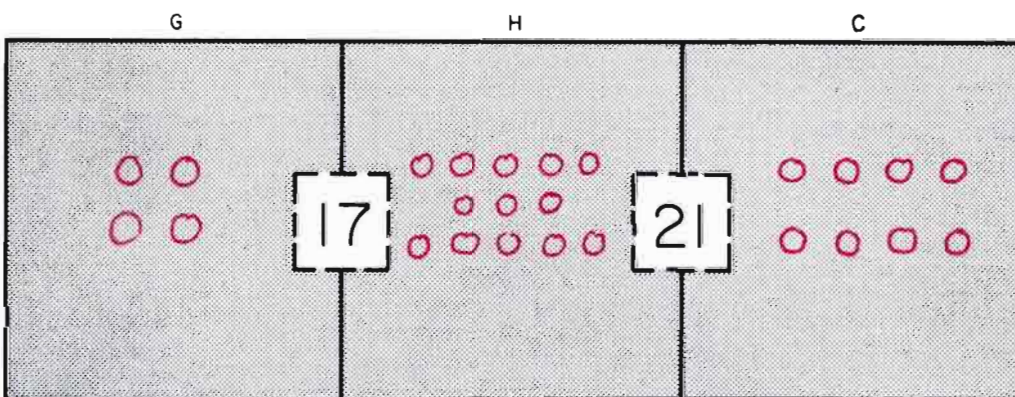
13 Total

A	B	C
4	2	7



20 Total

D	E	F
8	9	3



25 Total

G	H	C
4	13	8

Student 15¢ Alumno	Adult 35¢ Adulto	Student 15¢ Alumno
1	1	3
2	1	10
4	2	13
6	3	26

See also: D&P 61-69

	A	B	C
D	1.50	3.90	8
E	9	2	14
F	25	3	7
G	4	.65	4
H	.50	.45	13
I	1.95	1.95	1.30

FACT FAMILIES . . . and . . . some Relatives
FAMILIAS DE CUENTAS . . . y . . . algunos Familiares

$\begin{array}{r} 9 \\ + 6 \\ \hline 15 \end{array}$ A	$\begin{array}{r} 15 \\ - 6 \\ \hline 9 \end{array}$	$\begin{array}{r} 15 \\ - 9 \\ \hline 6 \end{array}$	$\begin{array}{r} 6 \\ + 9 \\ \hline 15 \end{array}$
$6 + 9 = 15$		$15 - 9 = 6$	
$15 - 6 = 9$		$9 + 6 = 15$	

$$\begin{array}{r} 10 + 6 = 16 \\ \hline \end{array}$$

E

$$\begin{array}{r} 15 - 7 = 8 \\ \hline \end{array}$$

F

$$\begin{array}{r} 14 - 9 = 5 \\ \hline \end{array}$$

G

$$\begin{array}{r} 14 - 6 = 8 \\ \hline \end{array}$$

I

$$\begin{array}{r} 19 \\ + 6 \\ \hline 25 \end{array}$$

H

$$\begin{array}{r} 7 \\ + 8 \\ \hline 15 \end{array}$$

J

$$\begin{array}{r} 16 \\ - 9 \\ \hline 7 \end{array}$$

K

$$\begin{array}{r} 16 \\ + 9 \\ \hline 25 \end{array}$$

C

$\begin{array}{r} 8 \\ + 5 \\ \hline 13 \end{array}$ B	$\begin{array}{r} 6 \\ \times 4 \\ \hline 24 \end{array}$ C	$\begin{array}{r} 7 \\ \times 3 \\ \hline 21 \end{array}$ D	$\begin{array}{r} 3 \\ \times 7 \\ \hline 21 \end{array}$ A
$13 - 5 = 8$		$24 \div 4 = 6$	
$21 \div 7 = 3$		$21 \div 3 = 7$	
$\begin{array}{r} 4 \\ \times 6 \\ \hline 24 \end{array}$	$\begin{array}{r} 5 \\ + 8 \\ \hline 13 \end{array}$	$\begin{array}{r} 13 \\ - 5 \\ \hline 8 \end{array}$	$\begin{array}{r} 6 \\ \times 4 \\ \hline 24 \end{array}$
$\begin{array}{r} 13 \\ - 8 \\ \hline 5 \end{array}$	$13 - 5 = 8$		$\begin{array}{r} 5 \\ + 8 \\ \hline 13 \end{array}$
$6 \times 4 = 24$		$8 + 5 = 13$	
$24 \div 4 = 6$		$21 \div 3 = 7$	

$$\begin{array}{r} 7 \times 4 = 28 \\ \hline \end{array}$$

A

$$\begin{array}{r} 28 \div 4 = 7 \\ \hline \end{array}$$

H

$$\begin{array}{r} 9 + 4 = 13 \\ \hline \end{array}$$

E

$$\begin{array}{r} 7 + 6 = 13 \\ \hline \end{array}$$

J

$$\begin{array}{r} 18 \\ + 5 \\ \hline 23 \end{array}$$

D

$$\begin{array}{r} 25 \\ + 8 \\ \hline 33 \end{array}$$

G

$$\begin{array}{r} 18 \\ + 15 \\ \hline 33 \end{array}$$

F

$$\begin{array}{r} 7 \\ + 7 \\ \hline 14 \end{array}$$

D

$$\begin{array}{r} 24 \div 3 = 8 \\ \hline \end{array}$$

F

$$\begin{array}{r} 24 \div 8 = 3 \\ \hline \end{array}$$

A

$$48 + 5 = 53$$

B

$$\begin{array}{r} 14 \\ \times 3 \\ \hline 42 \end{array}$$

K

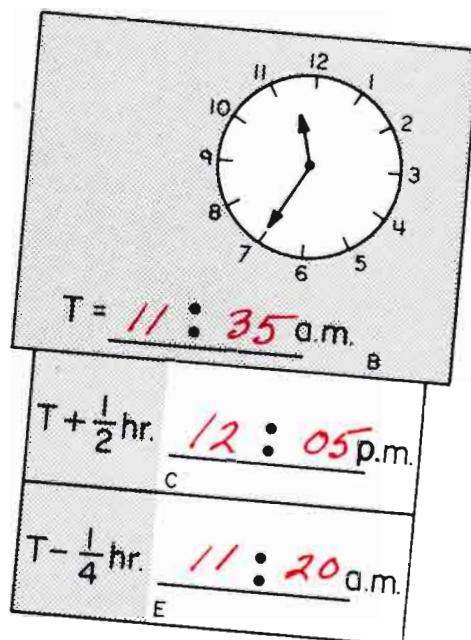
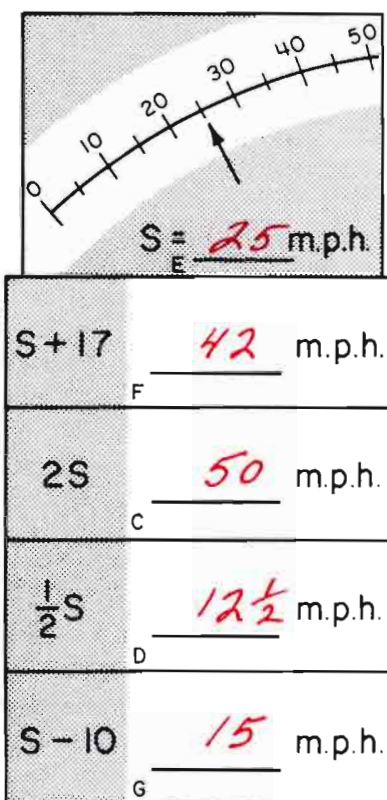
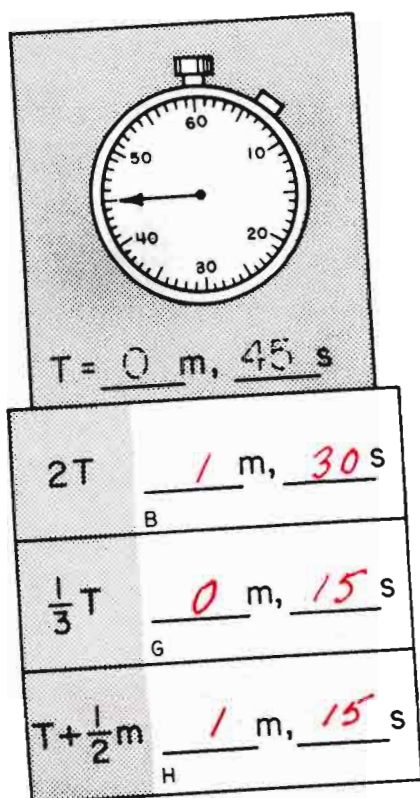
$$75 + 8 = 83$$

G

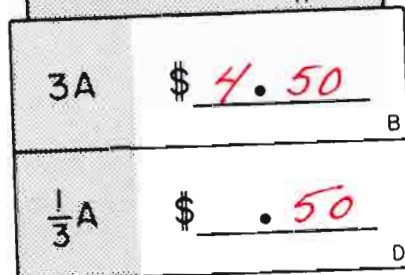
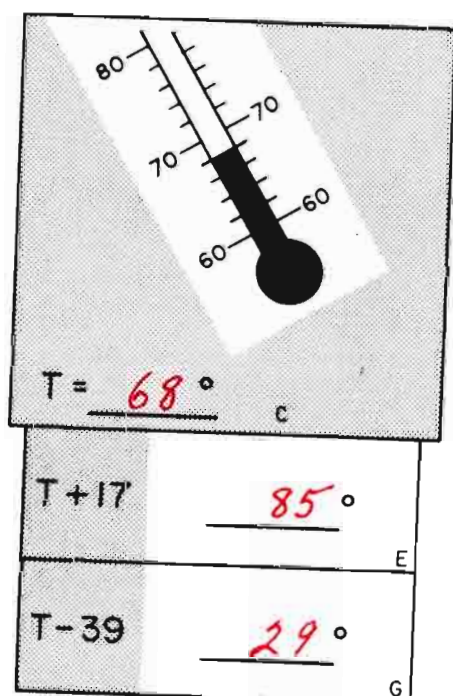
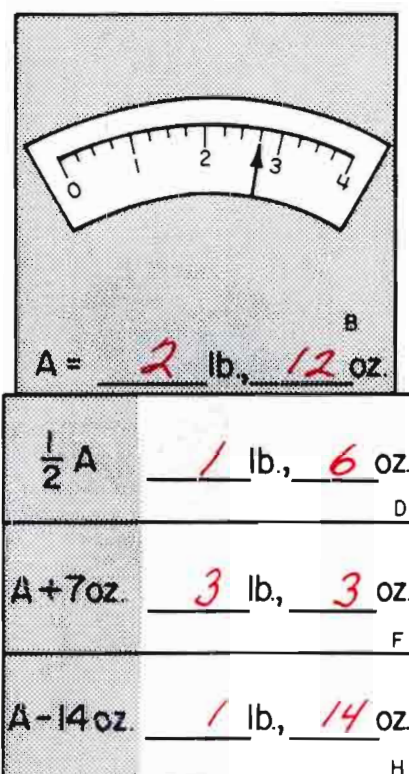
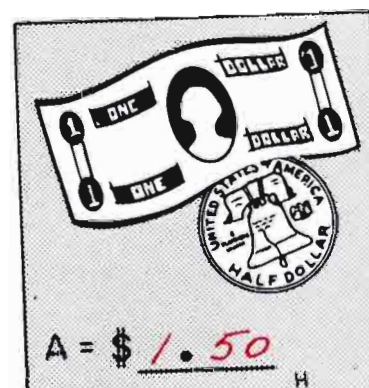
$$\begin{array}{r} 12 \\ \times 4 \\ \hline 48 \end{array}$$

A

	A	B	C	D	E	F
G	9	83	11	5	17	33
H	28	13	25	19	16	25
I	3	27	39	21	35	8
J	48	15	24	37	13	31
K	15	53	29	23	7	42



The letters used are abbreviations for something indicated in the sketch.



	A	B	C	D
E	11:20	2,12	85	25
F	18,3	1,30	3,3	42
G	4	29	50	15
H	1.50	1,15	1,14	1,6
I	11:15	11:35	68	12½
J	1,7	4.50	12:05	.50

Use only numbers from this list

Use solamente los números de esta lista

3 4 5 6 7 8 or 9

$$A (3 \times 7) - (4 \times 5) = 1$$

$$A (4 \times 5) - (3 \times 6) = 2$$

$$B (5 \times 5) - (4 \times 6) = 1$$

$$B (3 \times 9) - (5 \times 5) = 2$$

$$C (4 \times 7) - (3 \times 9) = 1$$

$$C (4 \times 8) - (5 \times 6) = 2$$

$$D (9 \times 4) - (5 \times 7) = 1$$

$$D (6 \times 7) - (5 \times 8) = 2$$

$$E (7 \times 7) - (6 \times 8) = 1$$

$$E (7 \times 8) - (6 \times 9) = 2$$

Fence Arithmetic

Aritmética Usando Cercas

10's

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

12's

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

14's

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

See also: D&P p 124-135

Loop Arithmetic

Aritmética de Lazo

$$A \quad 10 \times 7 = 70$$

$$B \quad 100 \times 7 = 700$$

$$C \quad 10 \times 70 = 700$$

$$A \quad 1000 \times 7 = 7,000$$

$$E \quad 100 \times 70 = 7,000$$

$$D \quad 10 \times 700 = 7,000$$

$$E \quad 2 \times 50 = 100$$

$$C \quad 20 \times 50 = 1,000$$

$$D \quad 20 \times 500 = 10,000$$

$$E \quad 200 \times 5 = 1,000$$

A	B	C	D	E
4	4	4	4	4
4	4	4	4	4
5	5	5	5	5
5	5	5	5	5
7	7	7	7	7
7	7	7	7	7
15	19	21	23	28

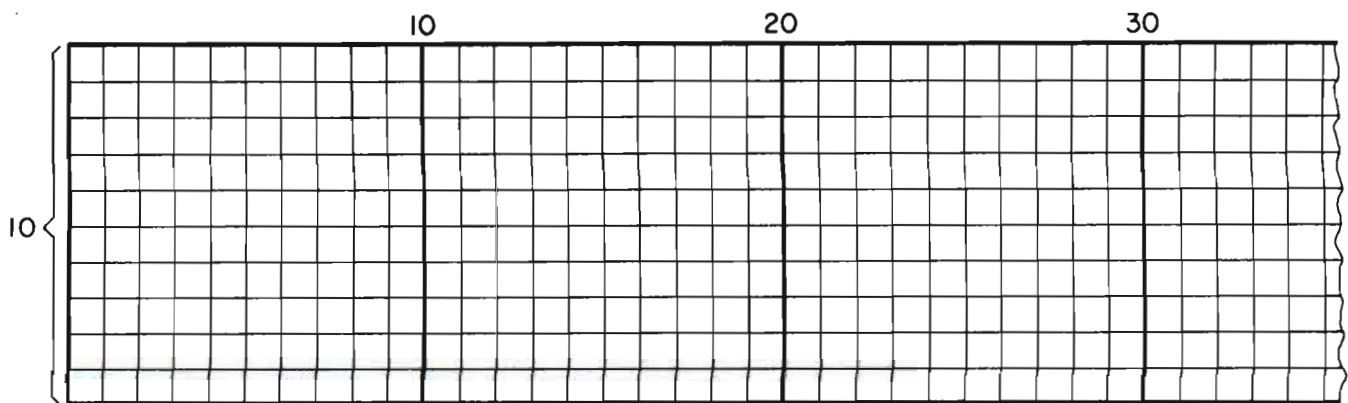
See also: D&P p 140-142

A	B	C	D	E
7,000	3, 5	1,000	9, 5	100
3, 4	700	4, 5	7,000	7, 6
70	5, 7, 7	4, 3	4, 5, 7, 7	1,000
4, 4, 7	5, 4	700	6, 5	4, 5, 5, 7, 7
4, 3	100	4, 5, 5, 7	10,000	7,000

Cuentas y otros miembros de Familia.

A grid with 4 rows and 17 columns. The columns are numbered 1 through 17 at the top. A large curly brace on the left side groups all four rows, with the number 4 written next to it.

A.	B.	C.	D.	E.	F.	G.	H.
$\begin{array}{r} 5 \\ 4 \overline{)20} \end{array}$	$\begin{array}{r} 10 \\ 4 \overline{)40} \end{array}$	$\begin{array}{r} 15 \\ 4 \overline{)60} \end{array}$	$\begin{array}{r} 7 \\ 4 \overline{)28} \end{array}$	$\begin{array}{r} 14 \\ 4 \overline{)56} \end{array}$	$\begin{array}{r} 13 \\ 4 \overline{)52} \end{array}$	$\begin{array}{r} 12 \\ 4 \overline{)48} \end{array}$	$\begin{array}{r} 11 \\ 4 \overline{)44} \end{array}$
$\begin{array}{r} 4 \\ 5 \overline{)20} \end{array}$	$\begin{array}{r} 4 \\ 10 \overline{)40} \end{array}$	$\begin{array}{r} 4 \\ 15 \overline{)60} \end{array}$	$\begin{array}{r} 4 \\ 7 \overline{)28} \end{array}$	$\begin{array}{r} 4 \\ 14 \overline{)56} \end{array}$	$\begin{array}{r} 4 \\ 13 \overline{)52} \end{array}$	$\begin{array}{r} 4 \\ 12 \overline{)48} \end{array}$	$\begin{array}{r} 4 \\ 11 \overline{)44} \end{array}$
$\begin{array}{r} 5 \\ \times 4 \\ \hline 20 \end{array}$	$\begin{array}{r} 10 \\ \times 4 \\ \hline 40 \end{array}$	$\begin{array}{r} 15 \\ \times 4 \\ \hline 60 \end{array}$	$\begin{array}{r} 7 \\ \times 4 \\ \hline 28 \end{array}$	$\begin{array}{r} 14 \\ \times 4 \\ \hline 56 \end{array}$	$\begin{array}{r} 13 \\ \times 4 \\ \hline 52 \end{array}$	$\begin{array}{r} 12 \\ \times 4 \\ \hline 48 \end{array}$	$\begin{array}{r} 11 \\ \times 4 \\ \hline 44 \end{array}$



E. $\begin{array}{r} 4 \\ 10 \overline{)40} \end{array}$

F. $\begin{array}{r} 8 \\ 10 \overline{)80} \end{array}$

G. $\begin{array}{r} 12 \\ 10 \overline{)120} \end{array}$

H. $\begin{array}{r} 24 \\ 10 \overline{)240} \end{array}$

A. $\begin{array}{r} 10 \\ 10 \overline{)100} \end{array}$

E. $\begin{array}{r} 30 \\ 10 \overline{)300} \end{array}$

A. $\begin{array}{r} 54 \\ 10 \overline{)540} \end{array}$

E. $\begin{array}{r} 96 \\ 10 \overline{)960} \end{array}$

$\begin{array}{r} 4 \\ \times 10 \\ \hline 40 \end{array}$

$\begin{array}{r} 8 \\ \times 10 \\ \hline 80 \end{array}$

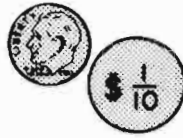
$\begin{array}{r} 12 \\ \times 10 \\ \hline 120 \end{array}$

$\begin{array}{r} 24 \\ \times 10 \\ \hline 240 \end{array}$

$\begin{array}{r} 10 \\ \times 10 \\ \hline 100 \end{array}$

$\begin{array}{r} 30 \\ \times 10 \\ \hline 300 \end{array}$

	A	B	C	D
E	96	4	30	56
F	5	8	13	7
G	540	10	120	48
H	10	11	60	240



$$50¢ = 1 \times \$\frac{1}{2} = 2 \times \$\frac{1}{4} = 5 \times \$\frac{1}{10} = \overset{A}{10} \times \$\frac{1}{20} = \overset{B}{50} \times \$\frac{1}{100}$$

$$\frac{1}{2} = \frac{2}{4} = \overset{C}{3} = \overset{D}{4} = \overset{E}{5} = \overset{F}{8} = \overset{A}{10} = \overset{G}{20} = \overset{B}{50}$$

$$25¢ = \frac{1}{2} \times \$\frac{1}{2} = \overset{1}{1} \times \$\frac{1}{4} = 2\frac{1}{2} \times \$\frac{1}{10} = \overset{E}{5} \times \$\frac{1}{20} = \overset{F}{25} \times \$\frac{1}{100}$$

$$\frac{1}{4} = \overset{G}{2} = \overset{A}{3} = \overset{C}{12} = 2\frac{1}{2} = \overset{D}{4} = \overset{E}{5} = \overset{A}{10} = \overset{F}{25}$$

$$75¢ = 1\frac{1}{2} \times \$\frac{1}{2} = \overset{C}{3} \times \$\frac{1}{4} = 7\frac{1}{2} \times \$\frac{1}{10} = \overset{B}{15} \times \$\frac{1}{20} = \overset{C}{75} \times \$\frac{1}{100}$$

$$\frac{3}{4} = \overset{C}{6} = \overset{D}{8} = \overset{E}{12} = 7\frac{1}{2} = \overset{A}{12} = \overset{B}{15} = \overset{C}{30} = \overset{C}{75}$$

$$\$1.00 = \overset{A}{2} \times \$\frac{1}{2} = \overset{D}{4} \times \$\frac{1}{4} = 10 \times \$\frac{1}{10} = 20 \times \$\frac{1}{20} = 100 \times \$\frac{1}{100}$$

$$\frac{2}{2} = \overset{A}{4} = \overset{D}{6} = \overset{F}{8} = \overset{A}{10} = \overset{A}{12} = \overset{G}{20} = \overset{B}{50} = \overset{D}{100}$$

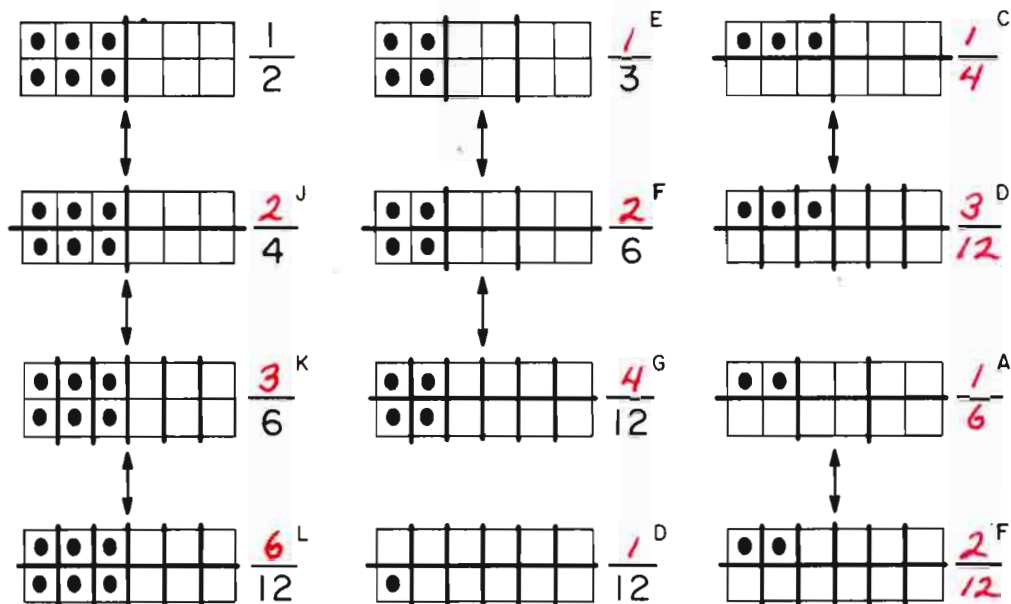
$$\$1.50 = 3 \times \$\frac{1}{2} = 6 \times \$\frac{1}{4} = 15 \times \$\frac{1}{10}$$

$$\frac{3}{2} = \overset{C}{6} = \overset{D}{8} = \overset{A}{12} = \overset{B}{15} = \overset{E}{100}$$

See also D&P 78A - 80F

A	B	C	D	E	F	G
10	31	75	6	5	13	1
2	50	30	4	150	25	14
12	15	3	100	9	8	20

eggs	doz.
* 1	$\frac{1}{12}$
2	$\frac{1^A}{6} = \frac{2^F}{12}$
* 3	$\frac{1^C}{4} = \frac{3^D}{12}$
4	$\frac{1^E}{3} = \frac{2^F}{6} = \frac{4^G}{12}$
* 5	$\frac{5^H}{12}$
6	$\frac{1^I}{2} = \frac{2^J}{4} = \frac{3^K}{6} = \frac{6^L}{12}$
* 7	$\frac{7^M}{12}$
8	$\frac{2^A}{3} = \frac{4^B}{6} = \frac{8^C}{12}$
* 9	$\frac{3^D}{4} = \frac{9^E}{12}$
10	$\frac{5^F}{6} = \frac{10^G}{12}$
* 11	$\frac{11^I}{12}$
12	$\frac{1}{12} = \frac{2^J}{2} = \frac{3^K}{3} = \frac{4^L}{4} = \frac{6^M}{6} = \frac{12^K}{12}$
* 13	$\frac{1}{12} = \frac{13}{12}$



*We call the starred names the "Simplest Form" or "lowest terms".

Llamamos los nombres con estrellas "la forma más sencilla" o "En términos reducidos".

$$\frac{1}{3} + \frac{1}{6} = \frac{2}{6} + \frac{1}{6} = \frac{3}{6} = \frac{1}{2}^L$$

$$\frac{3}{4} - \frac{2}{3} = \frac{9}{12} - \frac{8}{12} = \frac{1}{12}^D$$

$$\frac{1}{6} + \frac{3}{4} = \frac{2}{12} + \frac{9}{12} = \frac{11}{12}^I$$

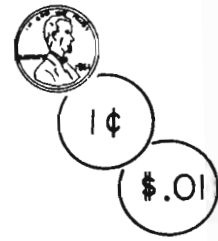
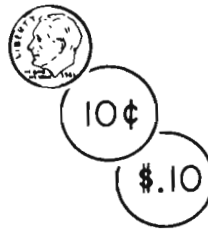
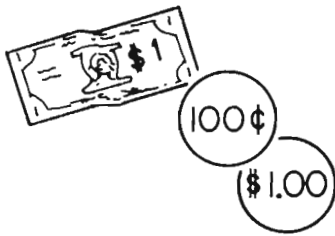
$$\frac{5}{6} - \frac{1}{2} = \frac{5}{6} - \frac{3}{6} = \frac{2}{6} = \frac{1}{3}^E$$

$$\frac{5}{12} + \frac{1}{4} = \frac{5}{12} + \frac{3}{12} = \frac{8}{12} = \frac{2}{3}^B$$

$$\frac{3}{4} + \frac{1}{3} = \frac{9}{12} + \frac{4}{12} = \frac{13}{12} = 1\frac{1}{12}^G$$

	A	B	C	D	E	F	G	H	I	J
K	$\frac{3}{3}$	$\frac{4}{6}$	$\frac{1}{4}$	$\frac{1}{12}$	$\frac{2}{6}$	$\frac{2}{12}$	$\frac{4}{12}$	$\frac{3}{6}$	$\frac{12}{12}$	$\frac{2}{2}$
L	$\frac{1}{6}$	$\frac{4}{4}$	$\frac{8}{12}$	$\frac{3}{12}$	$\frac{9}{12}$	$\frac{2}{6}$	$\frac{10}{12}$	$\frac{6}{12}$	$\frac{1}{2}$	$\frac{2}{4}$
M	$\frac{2}{3}$	$\frac{8}{12}$	$\frac{7}{12}$	$\frac{3}{4}$	$\frac{1}{3}$	$\frac{5}{6}$	$1\frac{1}{12}$	$\frac{5}{12}$	$\frac{11}{12}$	$\frac{6}{6}$

See also D&P 201A - 201C



$$\frac{1}{10} = .1 = \frac{10}{100} = .10$$

$$.7 = \frac{7}{10} = .70 = \frac{70}{100}$$

$$1 \text{ } 1\text{¢} = .1 \text{ } 10\text{¢} = .01 \text{ } 100\text{¢}$$

$$50 \text{ } 1\text{¢} = \textcolor{red}{5} \text{ } 10\text{¢} = \textcolor{red}{.5} \text{ } 100\text{¢}$$

$$1 \text{ } 100\text{¢} = 10 \text{ } 10\text{¢} = \textcolor{red}{100} \text{ } 1\text{¢}$$

$$25 \text{ } 1\text{¢} = \textcolor{red}{2.5} \text{ } 10\text{¢} = \textcolor{red}{.25} \text{ } 100\text{¢}$$

$$1 \text{ } 10\text{¢} = \textcolor{red}{.1} \text{ } 100\text{¢} = \textcolor{red}{10} \text{ } 1\text{¢}$$

$$1.4 \text{ } 100\text{¢} = \textcolor{red}{14} \text{ } 10\text{¢} = \textcolor{red}{140} \text{ } 1\text{¢}$$

1¢	1	5	75	125	$\textcolor{red}{30}$ A	$\textcolor{red}{7}$ C	$\textcolor{red}{37}$ F	105
10¢	.1	$\textcolor{red}{.5}$ B	$\textcolor{red}{7.5}$ A	$\textcolor{red}{12.5}$ C	3	$\textcolor{red}{.7}$ D	3.7	$\textcolor{red}{10.5}$
100¢	.01	$\textcolor{red}{.05}$ C	$\textcolor{red}{.75}$ B	$\textcolor{red}{1.25}$ D	$\textcolor{red}{.3}$ B	.07	$\textcolor{red}{.37}$ G	$\textcolor{red}{1.05}$

100¢	1	.1	.01	2.13	$\textcolor{red}{.37}$ D	$\textcolor{red}{2.5}$ D
10¢	10	$\textcolor{red}{1}$ A	$\textcolor{red}{.1}$ B	$\textcolor{red}{21.3}$ D	3.7	$\textcolor{red}{25}$ H
1¢	$\textcolor{red}{100}$ A	$\textcolor{red}{10}$ C	$\textcolor{red}{1}$ I	$\textcolor{red}{213}$ G	$\textcolor{red}{37}$ C	250

	A	B	C	D
E	7.5	.5	10	1.25
F	100	.3	37	2.5
G	213	.1	.25	.37
H	30	25	7	5
I	1	14	12.5	21.3
J	140	.75	.05	.7

5% Sales Tax
Added

$$5\% = \frac{5}{100} = .05 = \frac{1}{20}$$

Se Agrega 5% de
Impuesto Sobre
Ventas

Price Precio	\$ 1.00	20 ¢	40 ¢	60 ¢	80 ¢	\$ 2.00
Sales Tax Impuesto sobre ventas.	\$.05	1 ¢	2 ¢	3 ¢	4 ¢	\$.10
Total	\$ 1.05	21 ¢	42 ¢	63 ¢	84 ¢	\$ 2.10
	A	B	D	E	F	G

We have
raised $66\frac{2}{3}$
of our goal.

$$66\frac{2}{3}\% = \frac{66\frac{2}{3}}{100} = .66\frac{2}{3} = \frac{2}{3}$$

Hemos levantado
 $66\frac{2}{3}$ de nuestra
meta.

Goal Meta	\$300.00	\$ 60.00	\$150.00	\$ 30.00
Amount raised Cantidad levantada	\$200.00	\$ 40.00	\$ 100.00	\$ 20.00
Amount to go Cantidad que falta	\$ 100.00	\$ 20.00	\$ 50.00	\$ 10.00
	I	I	I	B

We charge
8% interest
per year

$$8\% = \frac{8}{100} = .08 = \frac{2}{25} = \frac{4}{50} = \frac{6}{75}$$

Cobramos
8% de interés
por año

Borrowed Préstamo	\$ 1.00	\$10.00	\$100.00	\$5.00	\$50.00
Interest Interés	\$.08	\$.80	\$ 8.00	\$.40	\$ 4.00
Pay back Pagado	\$ 1.08	\$ 10.80	\$ 108.00	\$ 5.40	\$ 54.00
	A	B	C	D	E

25% off

$$25\% = \frac{25}{100} = .25 = \frac{1}{4}$$

$$75\% = \frac{75}{100} = .75 = \frac{3}{4}$$

25% de Descuento

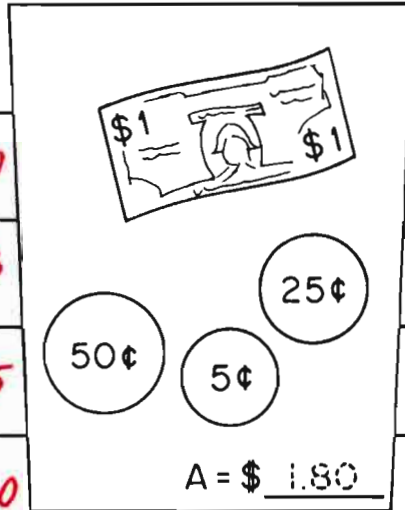
Regular Price Precio Regular	40 ¢	\$ 1.00	\$ 10.00
25% off	10 ¢	\$.25	\$ 2.50
Price Precio	30 ¢	\$.75	\$ 7.50
	E	G	J

	A	B	C	D
E	.84	.63	.30	54.00
F	1.08	10.00	.84	.42
G	1.05	.75	.02	2.10
H	1.00	.21	21.00	5.40
I	50.00	10.80	108.00	100.00
J	8.00	20.00	2.00	7.50



How do you feel?
¿Cómo se siente?

$A + 20¢$	\$ <u>2.00</u>
$A - 37¢$	\$ <u>1.43</u>
$A + \$1.25$	\$ <u>3.05</u>
$2A$	\$ <u>3.60</u>



$\frac{1}{2} A$	\$ <u>.90</u>
$\$5.00 - A$	\$ <u>3.20</u>
$\frac{1}{3} A$	\$ <u>.60</u>
$25\% \times A$	\$ <u>.45</u>

$\begin{array}{r} 6 \\ + 9 \\ \hline 15 \end{array}$	$\begin{array}{r} 2 \\ \times 8 \\ \hline 16 \end{array}$	$\begin{array}{r} 20 \\ - 8 \\ \hline 12 \end{array}$	$\begin{array}{r} 3 \\ \times 7 \\ \hline 21 \end{array}$
$\begin{array}{r} 4 \\ \times 6 \\ \hline 24 \end{array}$	$\begin{array}{r} 15 \\ - 7 \\ \hline 8 \end{array}$	$\begin{array}{r} 7 \\ \times 4 \\ \hline 28 \end{array}$	$\begin{array}{r} 8 \\ + 5 \\ \hline 13 \end{array}$

$$30 \times 20 = \underline{600}$$

$$50 \times 40 = \underline{2,000}$$

$$(3 \times 9) - (4 \times 6) = \underline{3}$$

$$(5 \times 8) - (7 \times 4) = \underline{12}$$

$$24 \div 3 = \underline{8}$$

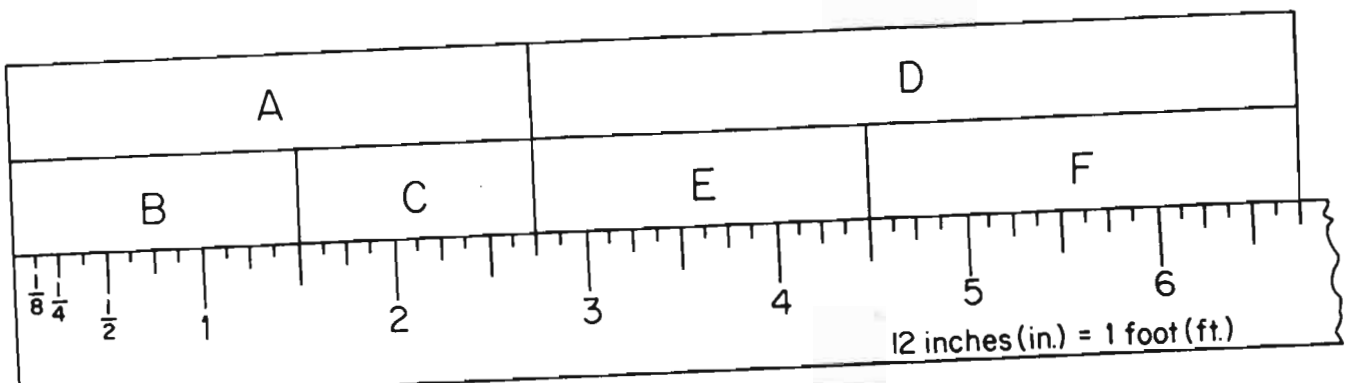
$$7 + 9 = \underline{16}$$

$$28 \div 7 = \underline{4}$$

$$13 - 5 = \underline{8}$$

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

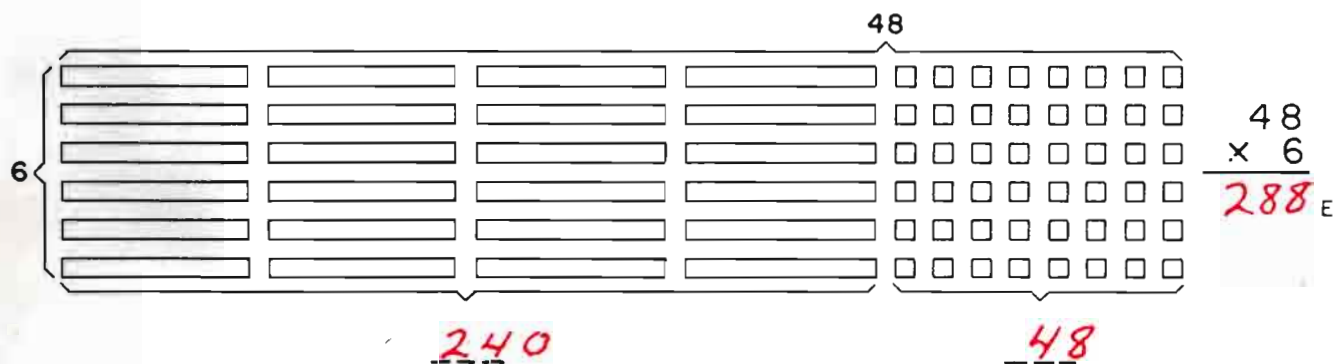
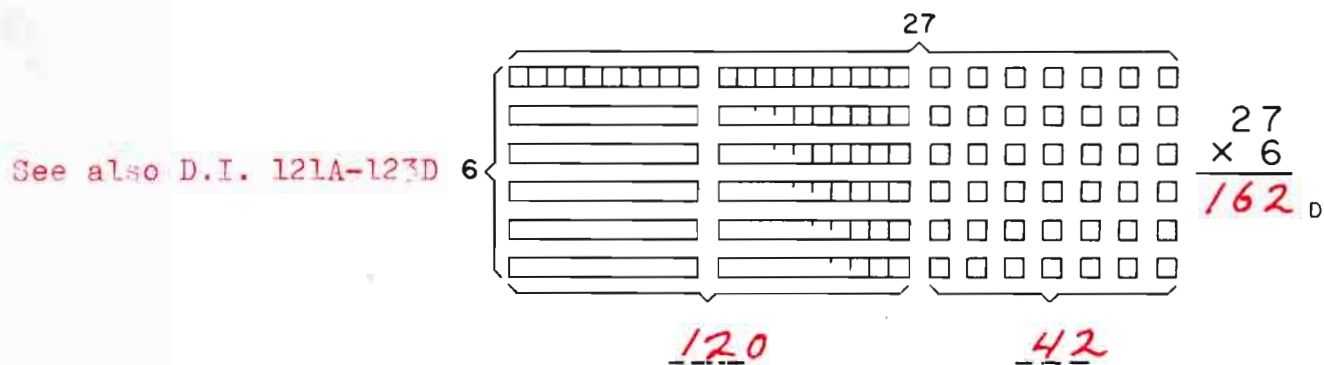
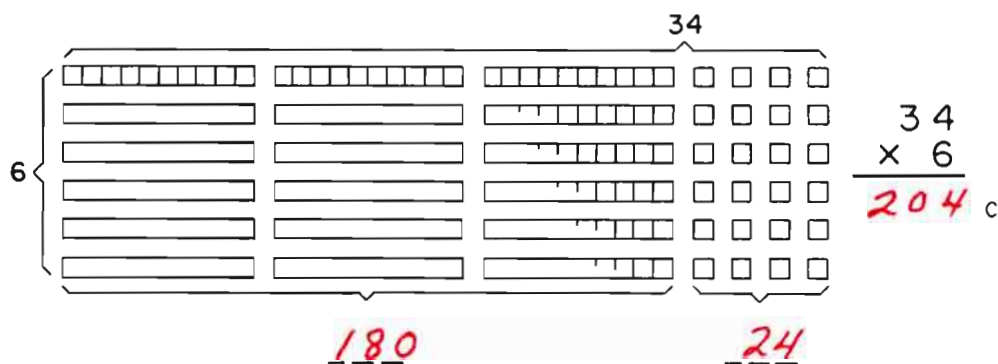
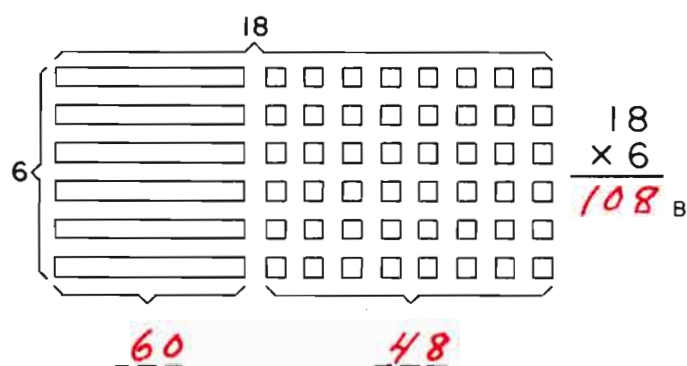
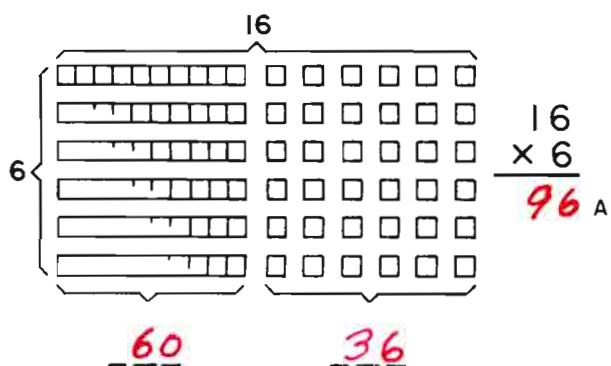
$$\frac{2}{3} - \frac{1}{3} = \underline{\frac{1}{3}}$$



$\frac{1}{2}$ ft.	6 in.	B	$1\frac{1}{2}$ in.	F	$2\frac{1}{4}$ in.
$\frac{1}{4}$ ft.	3 in.	C	$1\frac{1}{4}$ in.	A	$2\frac{3}{4}$ in.
$\frac{2}{3}$ ft.	8 in.	E	$1\frac{3}{4}$ in.	D	4 in.

What Can You See?

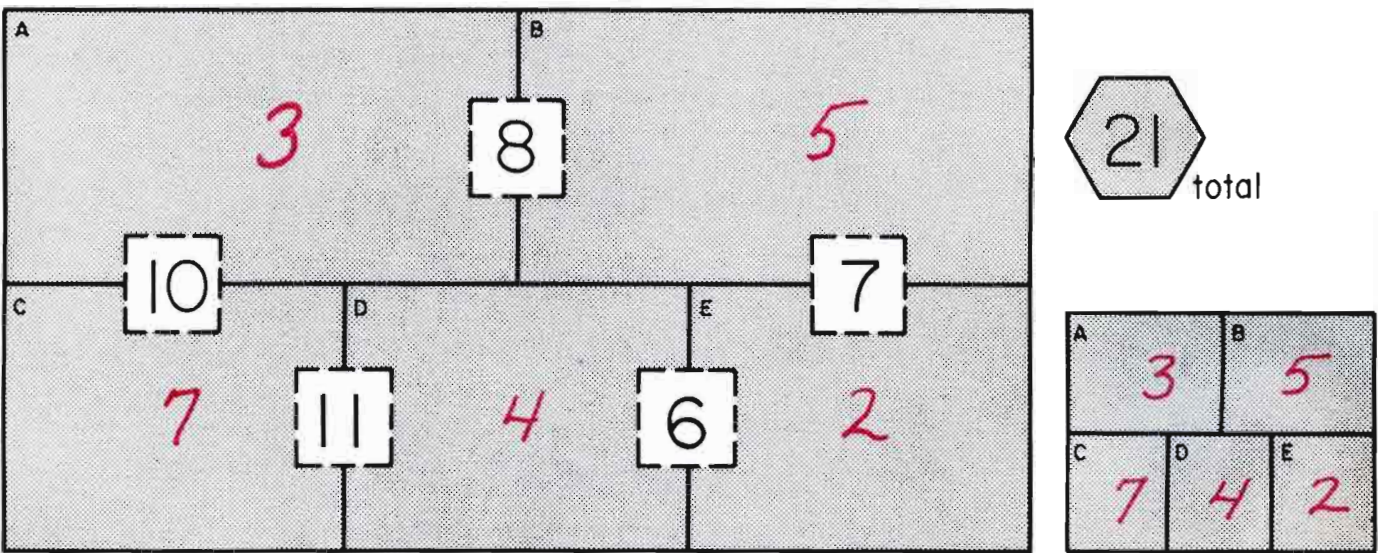
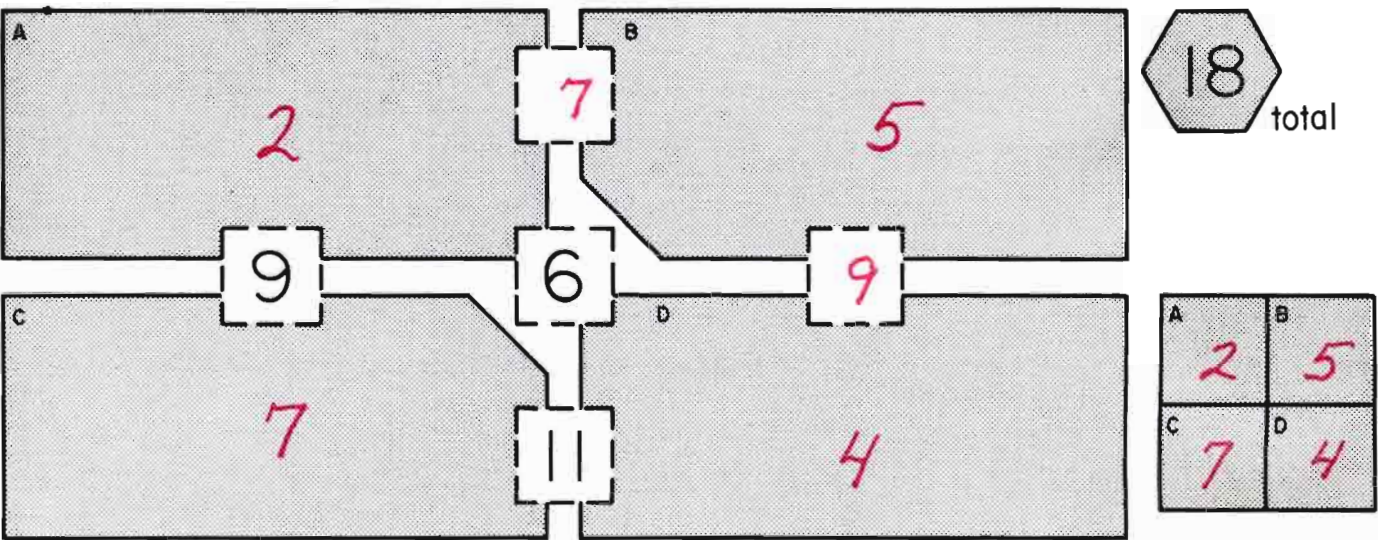
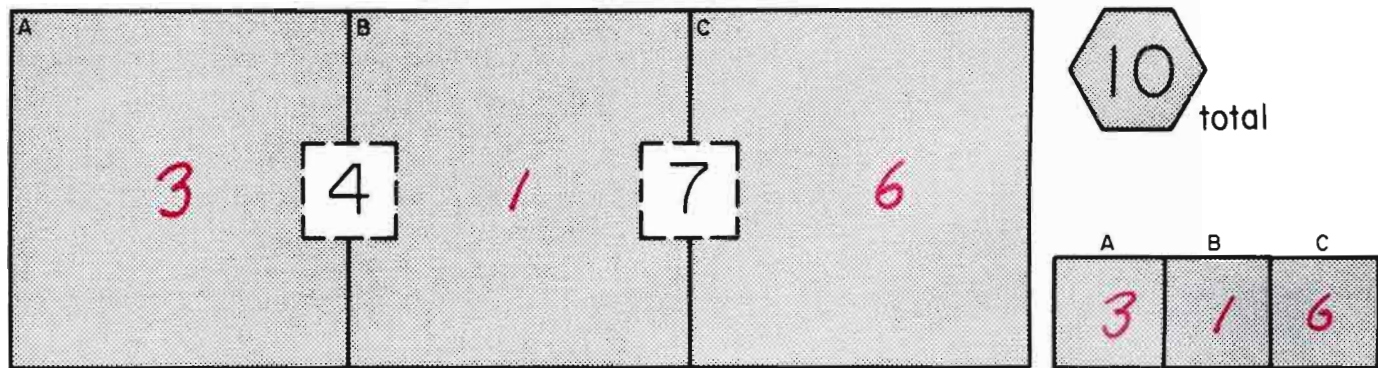
¿Qué Puede Usted Ver?



A	B	C	D	E
104	108	183	202	288
96	125	204	162	318

PUZZLES—several ways

ROMPECABEZAS de varias maneras



Counters may be useful.

Pueden ser útiles los objetos para contar.

See also: D&P 61-75

A	B	C	D	E
12	16	6	4	0
3	5	9	14	2
8	1	7	10	13
2	17	15	18	11

Fact Families

$\begin{array}{r} 7 \\ \times 7 \\ \hline 49 \end{array}$ A	$\begin{array}{r} 9 \\ \times 5 \\ \hline 45 \end{array}$ B	$\begin{array}{r} 8 \\ 6 \overline{)48} \end{array}$ C	$\begin{array}{r} 9 \\ 3 \overline{)27} \end{array}$ D
--	--	---	---

$\begin{array}{r} 7 \\ 7 \overline{)49} \end{array}$	$\begin{array}{r} 9 \\ 5 \overline{)45} \end{array}$	$\begin{array}{r} 5 \\ 9 \overline{)45} \end{array}$
--	--	--

$8 \times 6 = 48$	$49 \div 7 = 7$
$9 \times 3 = 27$	$5 \times 9 = 45$

$\begin{array}{r} 8 \\ \times 6 \\ \hline 48 \end{array}$	$\begin{array}{r} 9 \\ \times 3 \\ \hline 27 \end{array}$	$\begin{array}{r} 6 \\ \times 8 \\ \hline 48 \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline 45 \end{array}$
---	---	---	---

$27 \div 9 = 3$	$48 \div 8 = 6$
-----------------	-----------------

Familias de Cuentas

$\begin{array}{r} 10^B \\ 3 \overline{)30} \end{array}$	$\begin{array}{r} 7^F \\ 6 \overline{)42} \end{array}$	$\begin{array}{r} 18^G \\ 3 \overline{)54} \end{array}$
---	--	---

$\begin{array}{r} 7 \\ \times 6 \\ \hline 42^H \end{array}$	$\begin{array}{r} 8 \\ \times 5 \\ \hline 40^I \end{array}$	$\begin{array}{r} 9 \\ \times 4 \\ \hline 36^J \end{array}$	$\begin{array}{r} 9 \\ \times 6 \\ \hline 54^K \end{array}$
---	---	---	---

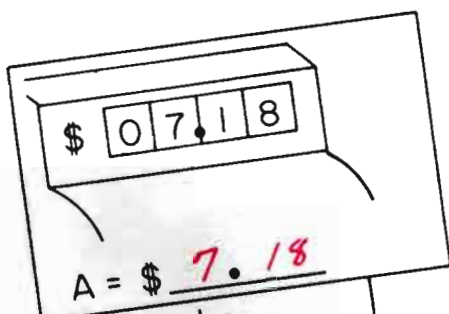
$7 \times 8 = 56^L$	$8 \times 5 = 40^F$
$54 \div 6 = 9^G$	$42 \div 7 = 6^H$

$\begin{array}{r} 5^I \\ 6 \overline{)30} \end{array}$	$\begin{array}{r} 4 \\ 12 \overline{)48} \end{array}$	$\begin{array}{r} 16^K \\ 3 \overline{)48} \end{array}$
--	---	---

$\begin{array}{r} 8^L \\ 5 \overline{)40} \end{array}$	$\begin{array}{r} 10^F \\ 5 \overline{)50} \end{array}$	$\begin{array}{r} 7^H \\ 8 \overline{)56} \end{array}$
--	---	--

Arithmetic in the World Around Us.

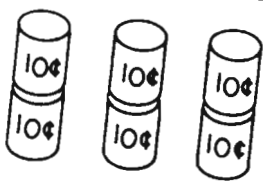
La Aritmética en el Mundo que Nos Rodea.



A = \$ 7.18

$\frac{1}{2}A$	
\$ <u>3.59</u>	A
$2A$	
\$ <u>14.36</u>	B
$10A$	
\$ <u>71.80</u>	C

$A + \$9.90$	
\$ <u>17.08</u>	A
$A - \$2.50$	
\$ <u>4.68</u>	



P = 10¢

37P	
\$ <u>3.70</u>	C
19P	
\$ <u>1.90</u>	A
98P	
\$ <u>9.80</u>	B

\$12.30	
<u>123</u> P	C

	A	B	C	D	E
F	19	10	7	40	6
G	17.08	14.36	8	18	9
H	49	9.80	7	6	42
I	10	40	3.70	9	5
J	3.59	45	123	48	36
K	8.40	16	50	54	44
L	11	4.68	71.80	8	56

Use only numbers from this list

3,4,5,6,8

Use solamente números de esta lista

A $(3 \times 5) - (3 \times 4) = 3$

B $(4 \times 6) - (3 \times 7) = 3$

C $(3 \times 9) - (3 \times 8) = 3$

D $(5 \times 7) - (8 \times 4) = 3$

E $(5 \times 9) - (6 \times 7) = 3$

A $(4 \times 5) - (4 \times 4) = 4$

B $(3 \times 8) - (4 \times 5) = 4$

C $(5 \times 5) - (3 \times 7) = 4$

D $(4 \times 7) - (6 \times 4) = 4$

E $(4 \times 9) - (4 \times 8) = 4$

See also: D&P 124-135

Fence Arithmetic

9's

4	5	1	3	6
2	4	1	4	1
3	5	4	2	2
3	1	3	4	3
4	5	2	3	6

11's

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

Aritmética Usando Cercas

13's

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

Loop Arithmetic

Aritmética de Lazo

$10 \times 12 = 120$ A

$100 \times 12 = 1,200$ B

$10 \times 120 = 1,200$ C

$10 \times 1200 = 12,000$ D

$100 \times 120 = 12,000$ D

$8 \times 50 = 400$ A

$80 \times 5 = 400$ B

$80 \times 50 = 4,000$ C

$800 \times 5 = 4,000$ D

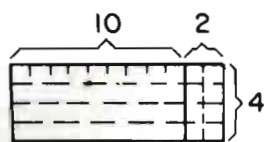
$80 \times 500 = 40,000$ E

3	3	3	3	3
3	3	3	3	3
7	7	7	7	7
7	7	7	7	7
8	8	8	8	8
8	8	8	8	8
A 22	B 19	C 18	D 25	E 30

A	B	C	D	E
120	400	1,200	5,8	7,7,8,8
3,3	3,8,8	5,3	4,000	120,000
7,7,8	3,4	3,7,8	4,6	5,6
400	4,3	4,000	3,7,7,8	40,000
4,4	1,200	3,3	12,000	4,4

Fact Families

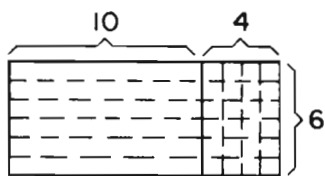
Familias de Cuentas



$$\begin{array}{r} 40 + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 4 \\ \hline 48 \end{array} \text{A}$$

$$4 \overline{) 12} \begin{array}{r} 3 \\ 12 \\ \hline \end{array}$$

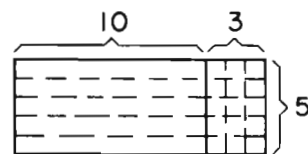


$$\begin{array}{r} 60 + 24 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ \times 6 \\ \hline 84 \end{array} \text{B}$$

$$6 \overline{) 14} \begin{array}{r} 2 \\ 12 \\ \hline 2 \\ 12 \\ \hline 2 \\ 12 \\ \hline 4 \\ \hline \end{array}$$

$$14 \overline{) 84} \begin{array}{r} 6 \\ 84 \\ \hline \end{array}$$

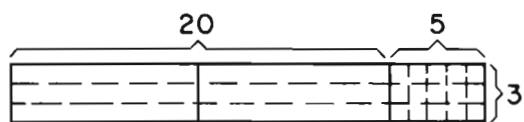


$$\begin{array}{r} 50 + 15 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ \times 5 \\ \hline 65 \end{array} \text{C}$$

$$5 \overline{) 13} \begin{array}{r} 2 \\ 10 \\ \hline 3 \\ \hline \end{array}$$

$$13 \overline{) 65} \begin{array}{r} 5 \\ 65 \\ \hline \end{array}$$

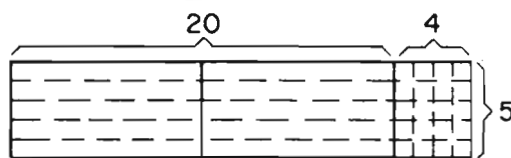


$$\begin{array}{r} 60 + 15 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ \times 3 \\ \hline 75 \end{array} \text{A}$$

$$3 \overline{) 25} \begin{array}{r} 8 \\ 24 \\ \hline 1 \\ \hline \end{array}$$

$$25 \overline{) 75} \begin{array}{r} 3 \\ 75 \\ \hline \end{array}$$

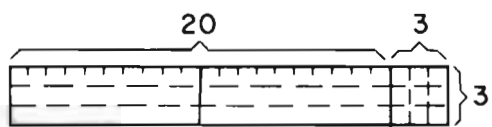


$$\begin{array}{r} 100 + 20 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ \times 5 \\ \hline 120 \end{array} \text{B}$$

$$5 \overline{) 24} \begin{array}{r} 4 \\ 20 \\ \hline 4 \\ \hline \end{array}$$

$$24 \overline{) 120} \begin{array}{r} 5 \\ 120 \\ \hline \end{array}$$

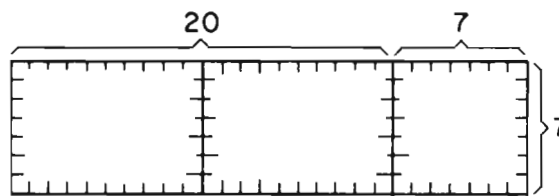


$$\begin{array}{r} 60 + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ \times 3 \\ \hline 69 \end{array} \text{C}$$

$$3 \overline{) 23} \begin{array}{r} 7 \\ 21 \\ \hline 2 \\ \hline \end{array}$$

$$23 \overline{) 69} \begin{array}{r} 3 \\ 69 \\ \hline \end{array}$$



$$\begin{array}{r} 140 + 49 \\ \hline \end{array}$$

$$\begin{array}{r} 27 \\ \times 7 \\ \hline 189 \end{array} \text{D}$$

$$7 \overline{) 27} \begin{array}{r} 3 \\ 21 \\ \hline 6 \\ \hline \end{array}$$

$$27 \overline{) 189} \begin{array}{r} 7 \\ 189 \\ \hline \end{array}$$

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

11's				
5	3	3	8	3
3	2	1	3	7
4	4	3	3	3
4	3	2	5	2
1	4	6	3	3

See also: D&P 216-221

	A	B	C
D	3	4	189
E	48	1	15
F	5	24	9
G	75	8	50
H	8	120	5
I	7	60	69
J	40	6	65
K	2	84	10

"Simplest Form" or "Lowest Term"

"La Forma Más Sencilla" o "En Términos Reducidos"

$$\boxed{\frac{1}{2}} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{6}{12}$$

$$\boxed{\frac{1}{3}} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \frac{5}{15}$$

$$\boxed{\frac{1}{4}} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16} = \frac{8}{32}$$

$$\boxed{\frac{1}{6}} = \frac{2}{12} = \frac{3}{18} = \frac{4}{24} = \frac{6}{36}$$

$$\boxed{\frac{1}{8}} = \frac{3}{24} = \frac{2}{16} = \frac{4}{32} = \frac{5}{40}$$

$$\boxed{\frac{1}{12}} = \frac{3}{36} = \frac{2}{24} = \frac{4}{48}$$

$$\boxed{\frac{2}{3}} = \frac{6}{9} = \frac{8}{12} = \frac{4}{6}$$

$$\boxed{\frac{3}{4}} = \frac{9}{12} = \frac{6}{8} = \frac{12}{16}$$

$$\boxed{\frac{5}{6}} = \frac{15}{18} = \frac{10}{12} = \frac{20}{24}$$

$$\boxed{\frac{3}{8}} = \frac{12}{32} = \frac{6}{16} = \frac{9}{24}$$

$$\boxed{\frac{5}{8}} = \frac{50}{80} = \frac{10}{16} = \frac{15}{24}$$

$$\boxed{\frac{7}{8}} = \frac{14}{16} = \frac{28}{32} = \frac{21}{24}$$

$$\boxed{\frac{5}{12}} = \frac{10}{24} = \frac{20}{48} = \frac{15}{36}$$

$$\boxed{\frac{7}{12}} = \frac{21}{36} = \frac{14}{24} = \frac{28}{48}$$

$$\boxed{\frac{11}{12}} = \frac{22}{24} = \frac{33}{36} = \frac{44}{48}$$

See also: D&P 189 .

$\frac{3}{4} = \frac{9}{12} \text{ A}$ $+ \frac{1}{6} = \frac{2}{12}$ $\boxed{\frac{11}{12}} \text{ L} = \frac{11}{12}$	$\frac{1}{2} = \frac{3}{6} \text{ B}$ $+ \frac{1}{3} = \frac{2}{6}$ $\boxed{\frac{5}{6}} \text{ H} = \frac{5}{6}$
$\frac{1}{12} = \frac{1}{12}$ $+ \frac{2}{3} = \frac{8}{12} \text{ E}$ $\boxed{\frac{3}{4}} \text{ M} = \frac{9}{12}$	$\frac{1}{2} = \frac{4}{8} \text{ G}$ $+ \frac{3}{8} = \frac{3}{8}$ $\boxed{\frac{7}{8}} \text{ B} = \frac{7}{8}$

$$\frac{1}{3} - \frac{1}{4} = \frac{4}{12} - \frac{3}{12} = \frac{1}{12} \text{ E}$$

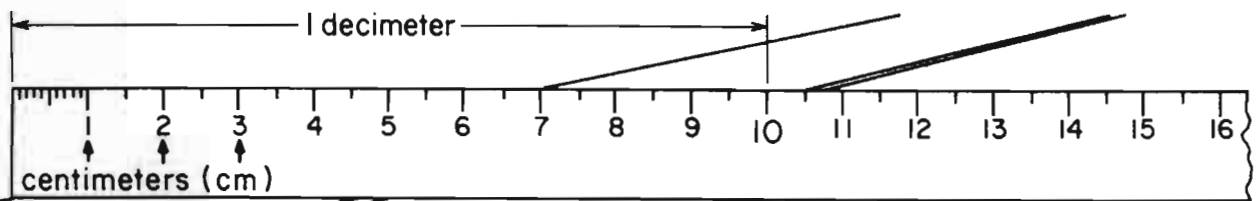
$$\frac{1}{2} - \frac{1}{3} = \frac{3}{6} - \frac{2}{6} = \frac{1}{6} \text{ C}$$

$$\frac{1}{4} - \frac{1}{6} = \frac{3}{12} - \frac{2}{12} = \frac{1}{12} \text{ E}$$

$$\frac{3}{4} - \frac{2}{3} = \frac{9}{12} - \frac{8}{12} = \frac{1}{12} \text{ K}$$

$$\frac{3}{4} - \frac{5}{12} = \frac{9}{12} - \frac{5}{12} = \frac{4}{12} = \frac{1}{3} \text{ A}$$

	A	B	C	D	E	F	G	H	I
J	$\frac{5}{8}$	$\frac{3}{6}$	28	$\frac{1}{8}$	33	6	9	7	8
K	$\frac{9}{12}$	$\frac{1}{4}$	4	20	$\frac{1}{12}$	2	$\frac{1}{2}$	$\frac{5}{6}$	21
L	$\frac{1}{3}$	15	$\frac{5}{12}$	3	$\frac{11}{12}$	$\frac{2}{3}$	$\frac{4}{8}$	12	14
M	10	$\frac{7}{8}$	$\frac{1}{6}$	$\frac{7}{12}$	$\frac{8}{12}$	5	$\frac{3}{4}$	44	$\frac{3}{8}$



1 Meter = 100cm

10 Meters (M) = 100 decimeters (D) = 1000 centimeters (cm) = 10,000 millimeters (mm)

1 Meter = 10 decimeters = A 100 centimeters = B 1,000 millimeters

.1 Meter = 1 decimeters = C 10 centimeters = J 100 millimeters

.01 Meter = D .1 decimeters = 1 centimeters = C 10 millimeters

.001 Meter = E .01 decimeters = J .1 centimeters = 1 millimeters

Meters	deci-meters	centi-meters	milli-meters
5	50 A	500	5,000
.7	7 B	70	700
.04	.4 C	4	40
.017	.17 D	1.7 I	17

M	D	cm	mm
3.6 E	36	360	3600
.25 F	2.5 C	25	250
.006 G	.06 F	.6 H	6
1.257	12.57	125.7	1257

\$ 17.85

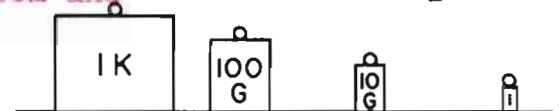
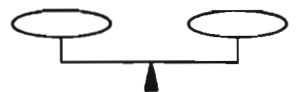
1 \$10 = 10 \$1

100 (10¢) = 1000 (1¢)

These metric measurement activities may be preceded by experiences with the measuring instruments themselves, pointing out the similarities between the metric system and our monetary system

1 Kilogram = 10 100 grams =

100 10 grams = 1000 1 gram



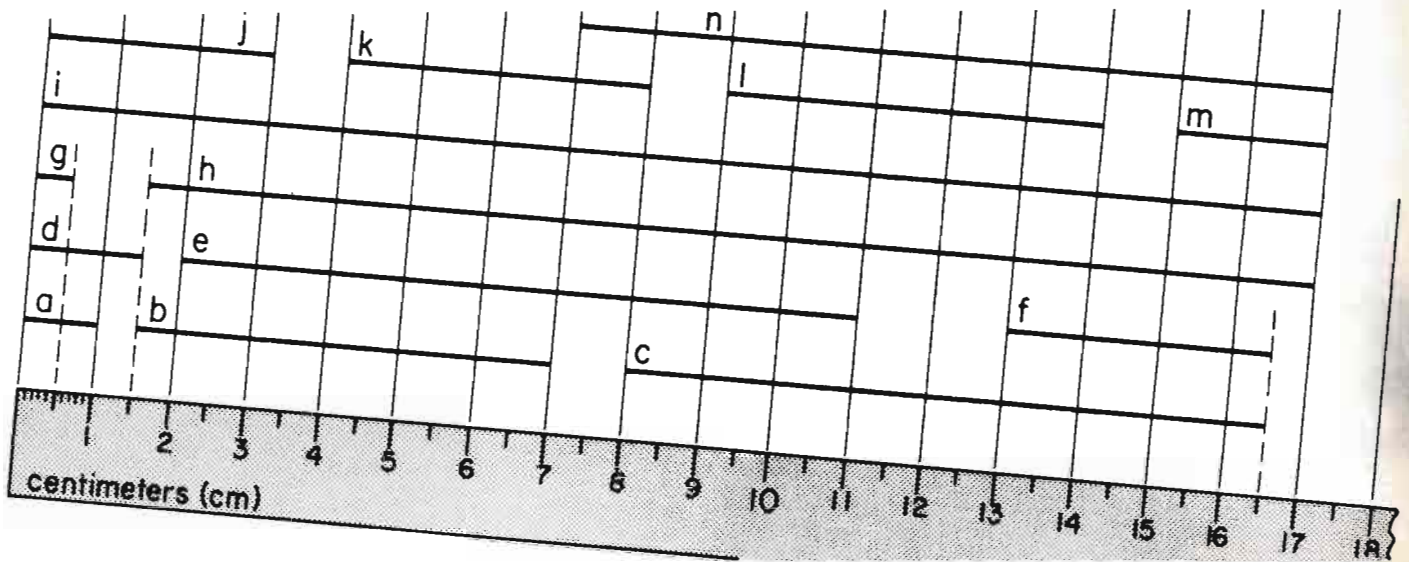
\$10	\$1	10¢	1¢
1.785	17.85	178.5	1,785
.3 A	3.00	30	300
.045	.45 I	4.5 H	45
.05 B	.5 K	5	50
6 C	60.00	600	6,000
.175 D	1.75	17.5 G	175
1.5 F	15	150	1,500

Kilo	100G	10G	1 Gram
.8	8	80	800
.4 A	4	40 I	400 K
1.5	15 G	150 J	1,500 L

	A	B	C	D	E	F	G	H
I	50	1.7	6	.45	50	40	17.5	4.5
J	100	.05	2.5	.1	3.6	.06	15	150
K	.4	7	10	.17	400	.25	.5	.6
L	.3	1000	.4	.175	.01	1.5	.006	1500

Lengths of lines shown.

Los largos de las líneas mostradas.

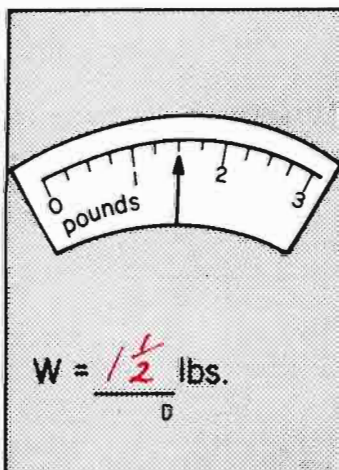


$$\begin{aligned} a &= \underline{1} \text{ cm} \\ b &= \underline{5\frac{1}{2}} \text{ cm} \\ c &= \underline{8\frac{1}{2}} \text{ cm} \\ d &= \underline{1\frac{1}{2}} \text{ cm} \\ e &= \underline{9} \text{ cm} \\ f &= \underline{3\frac{1}{2}} \text{ cm} \\ g &= \underline{\frac{1}{2}} \text{ cm} \end{aligned}$$

$$\begin{aligned} h &= \underline{15\frac{1}{2}} \text{ cm} \\ i &= \underline{17} \text{ cm} \\ j &= \underline{3} \text{ cm} \\ k &= \underline{4} \text{ cm} \\ l &= \underline{5} \text{ cm} \\ m &= \underline{2} \text{ cm} \\ n &= \underline{10} \text{ cm} \end{aligned}$$

$$\begin{aligned} a + b &= \underline{6\frac{1}{2}} \text{ cm} \\ c + d &= \underline{10} \text{ cm} \\ e + f &= \underline{12\frac{1}{2}} \text{ cm} \\ g + h &= \underline{16} \text{ cm} \\ i + b &= \underline{22\frac{1}{2}} \text{ cm} \\ c + h &= \underline{24} \text{ cm} \\ g + n &= \underline{10\frac{1}{2}} \text{ cm} \end{aligned}$$

$$\begin{aligned} b - a &= \underline{4\frac{1}{2}} \text{ cm} \\ c - d &= \underline{7} \text{ cm} \\ e - f &= \underline{5\frac{1}{2}} \text{ cm} \\ n - g &= \underline{9\frac{1}{2}} \text{ cm} \\ i - h &= \underline{1\frac{1}{2}} \text{ cm} \\ i - c &= \underline{8\frac{1}{2}} \text{ cm} \\ n - d &= \underline{8\frac{1}{2}} \text{ cm} \end{aligned}$$



$$W = \underline{1\frac{1}{2}} \text{ lbs.}$$

$$W + \frac{3}{4} \text{ lb.}$$

$$\underline{2\frac{1}{4}} \text{ lbs.}$$

$$\frac{1}{2} W$$

$$\underline{\frac{3}{4}} \text{ lbs.}$$

$$2W$$

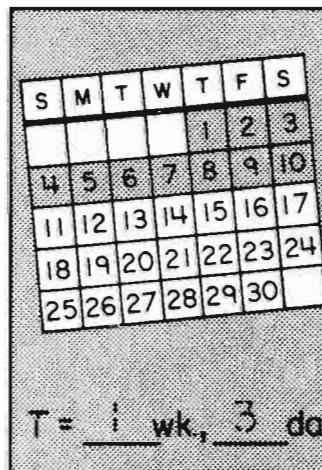
$$\underline{3} \text{ lbs.}$$

$$W - \frac{3}{4} \text{ lb.}$$

$$\underline{\frac{3}{4}} \text{ lbs.}$$

$$W - \frac{1}{4} \text{ lb.}$$

$$\underline{\frac{1}{4}} \text{ lbs.}$$



$$T = \underline{1} \text{ wk., } \underline{3} \text{ da.}$$

$$T + 6 \text{ da.}$$

$$\underline{2} \text{ wk., } \underline{2} \text{ da.}$$

$$\frac{1}{2} T$$

$$\underline{0} \text{ wk., } \underline{5} \text{ da.}$$

$$2T$$

$$\underline{2} \text{ wk., } \underline{6} \text{ da.}$$

	A	B	C	D	E
F	6 $\frac{1}{2}$	22 $\frac{1}{2}$	2, 2	24	2, 6
G	1	2 $\frac{1}{4}$	2	7	9
H	12 $\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	1 $\frac{1}{2}$	1, 2
I	4	5 $\frac{1}{2}$	17	$\frac{3}{4}$	0, 5
J	4 $\frac{1}{2}$	5	3	10	10 $\frac{1}{2}$

30% of the cars had out-of-state licenses.

$$30\% = \frac{30}{100} = \frac{3}{10} = .30 = .3$$

30% de los carros tenían licencias de otro estado.

Cars	Carros	100	500	10	70	A	F	
Out-of-state	De Otro estado	30	150	3	21	60	90	27
In-state	Del estado	70	350	7	49	140	210	63
		A	B	C	D	E		G

10% discount

$$10\% = \frac{10}{100} = \frac{1}{10} = .10 = .1$$

10% de descuento

Regular Price	Precio Regular	\$ 7.00	\$ 3.50	50¢	\$150
Discount	Descuento	\$.70	\$.35	5¢	\$ 15
Sale Price	Precio de Venta	\$6.30	\$3.15	45¢	\$135
		A	B		D

Interest rate
7% per year

$$7\% = \frac{7}{100} = .07$$

Por Ciento de
Interés 7% por año

Borrowed	Préstamo	\$10.00	\$200.00	\$500.00	\$1,000
Interest	Interés	\$.70	\$ 14.00	\$ 35	\$ 70
Total	Total	\$10.70	\$ 214.00	\$535.00	\$1070
		A	B	C	

25%
Down-payment

$$25\% = \frac{25}{100} = .25 = \frac{1}{4}$$

Pago Inicial 25%

Cost	Costo	\$4.00	\$80.00	\$100.00
Down	Pago Inicial	\$ 1.00	\$20.00	\$25.00
Owed	Deuda	\$ 3.00	\$60.00	\$75.00
			B	

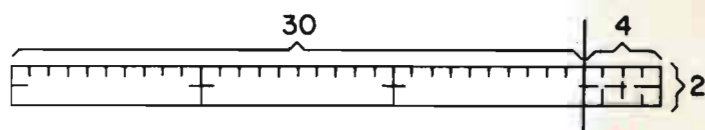
	A	B	C	D
E	200	140	80	157.50
F	10.70	60	300	49
G	6.30	350	535	63
H	700	214	50	1000
I	70	500	100	135
J	3.75	3.15	7	3.50

**SPEED
LIMIT
55 m.p.h.**
S = 55 m.p.h.

2S	<u>110</u> m.p.h.	S-18	<u>37</u> m.p.h.
S-30 m.p.h.	<u>25</u> m.p.h.	S-13	<u>42</u> m.p.h.
6 × (S-5)	<u>300</u> m.p.h.	S-35	<u>20</u> m.p.h.
$1\frac{1}{2}$ S	<u>82½</u> m.p.h.	50% × S	<u>27½</u> m.p.h.



How do you feel?
¿Cómo se siente?



$$\underline{60 + 8}$$

$$\begin{array}{r} 34 \\ \times 2 \\ \hline 68 \end{array}$$

$$\begin{array}{r} 34 \\ \times 3 \\ \hline 102 \end{array}$$

$$\begin{array}{r} 34 \\ 2 \overline{) 68} \\ \hline \end{array}$$

$$(7 \times 7) - (5 \times 6) = \underline{19}$$

$$(6 \times 6) - (3 \times 9) = \underline{9}$$

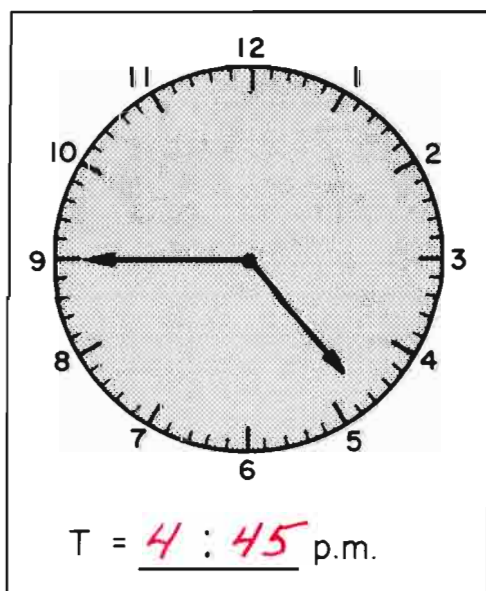
$$10 \times 850 = \underline{8,500} \quad 20 \times 50 = \underline{1,000}$$

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

$$\frac{1}{4} = \frac{3}{12}$$

$$\frac{3}{4} = \frac{9}{12}$$

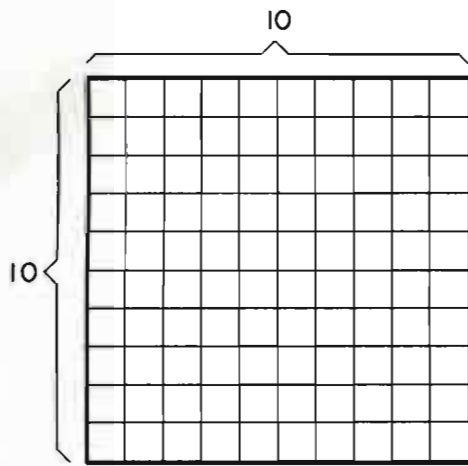
$\begin{array}{r} 17 \\ + 8 \\ \hline 25 \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline 45 \end{array}$	$\begin{array}{r} 7 \\ 6 \overline{) 42} \end{array}$	
$\begin{array}{r} 9 \\ \times 4 \\ \hline 36 \end{array}$	$\begin{array}{r} 8 \\ 6 \overline{) 48} \end{array}$	$\begin{array}{r} 23 \\ + 29 \\ \hline 52 \end{array}$	$\begin{array}{r} 7 \\ \times 7 \\ \hline 49 \end{array}$
$\begin{array}{r} 6 \\ 5 \overline{) 30} \end{array}$	$\begin{array}{r} 50 \\ - 32 \\ \hline 18 \end{array}$	$\begin{array}{r} 7 \\ \times 5 \\ \hline 35 \end{array}$	$\begin{array}{r} 45 \\ - 17 \\ \hline 28 \end{array}$



T + 45 min.	<u>5:30</u> p.m.
T - (1 hr. + 20 min.)	<u>3:25</u> p.m.
T + $1\frac{1}{2}$ hrs.	<u>6:15</u> p.m.
25% × 60 min.	<u>15</u> min.
T + 12 hrs.	<u>4:45</u> a.m.

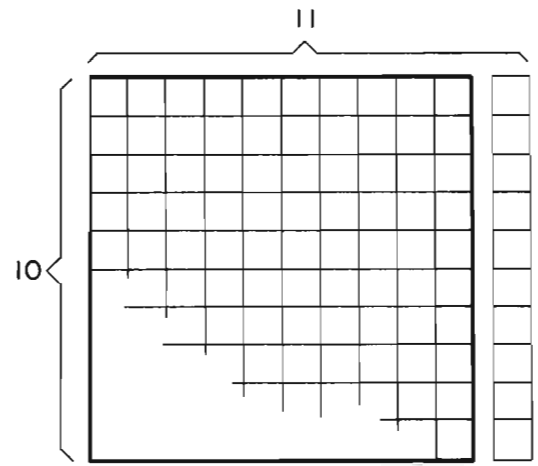
What Can You See?

¿Qué Puede Usted Ver?



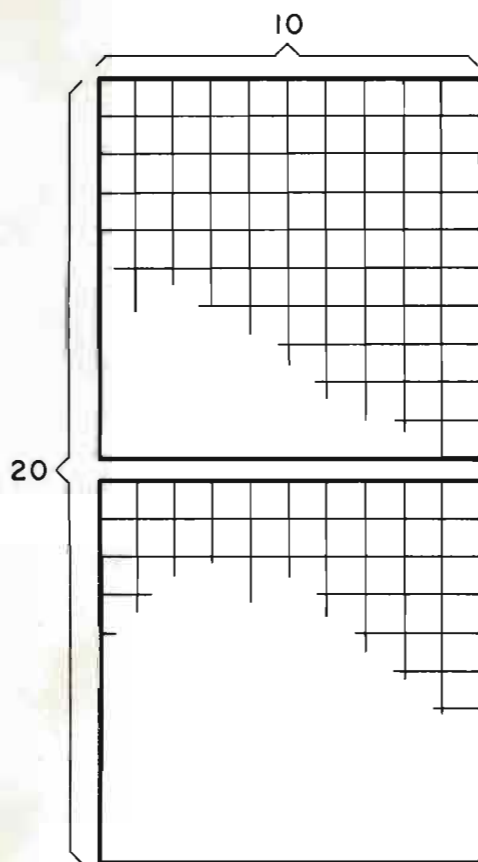
$$\begin{array}{r} 10 \\ \times 10 \\ \hline 100 \end{array}$$

$$10 \overline{) 100}$$



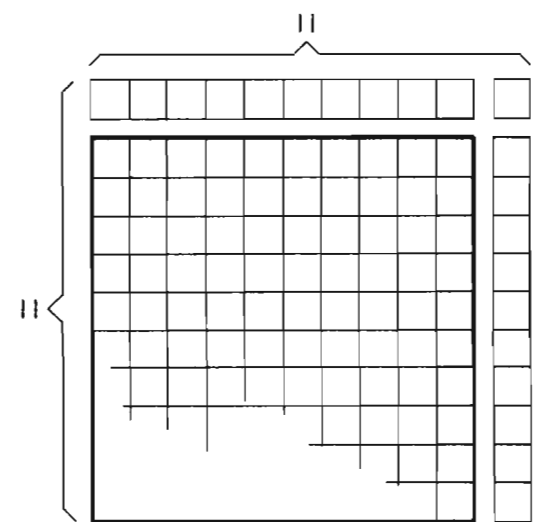
$$\begin{array}{r} 11 \\ \times 10 \\ \hline 110 \end{array} \text{ A}$$

$$10 \overline{) 110} \text{ B}$$



$$\begin{array}{r} 10 \\ \times 20 \\ \hline 200 \end{array} \text{ C}$$

$$20 \overline{) 200} \text{ A}$$



$$\begin{array}{r} 11 \\ \times 11 \\ \hline 121 \end{array} \text{ B}$$

$$11 \overline{) 121} \text{ C}$$

See also: D&P 121A-123D

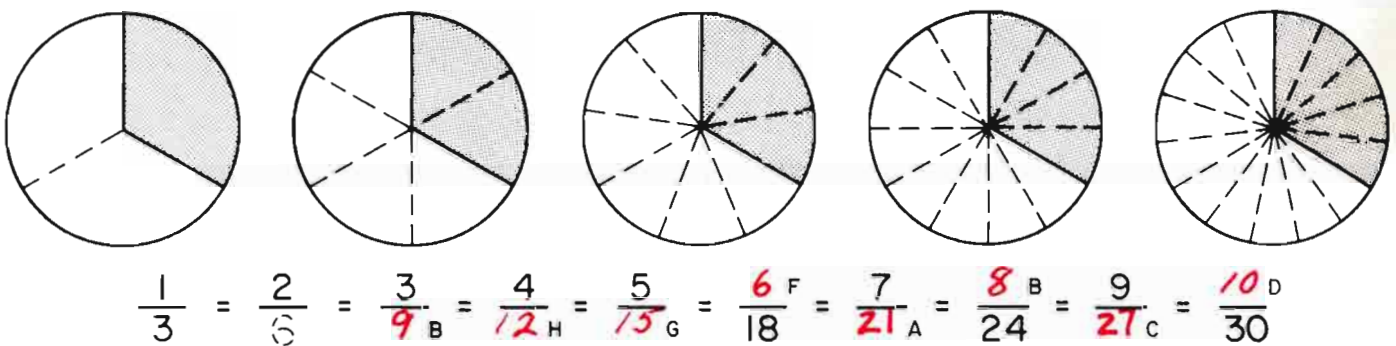
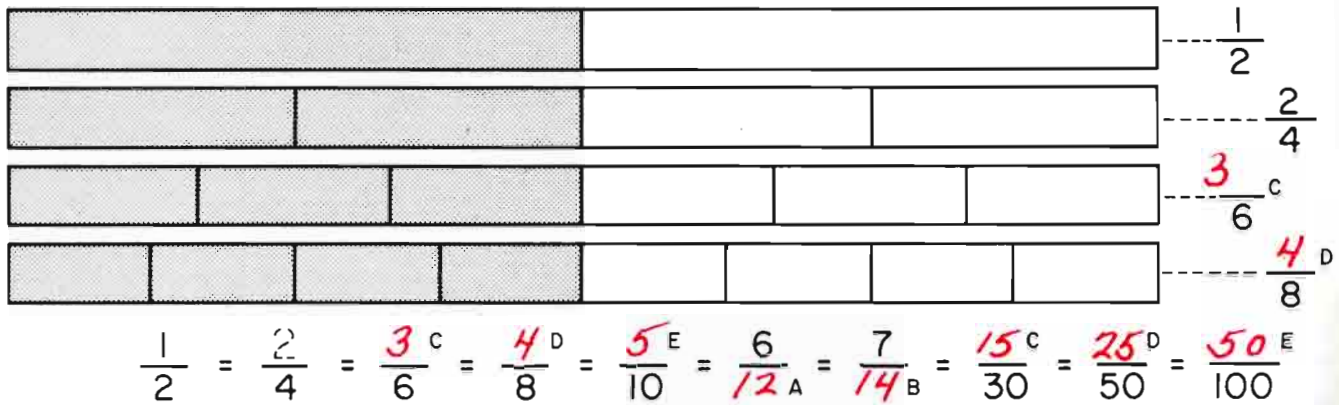
A	B	C
90	101	200
110	121	130
200	110	121

Can you see the patterns?

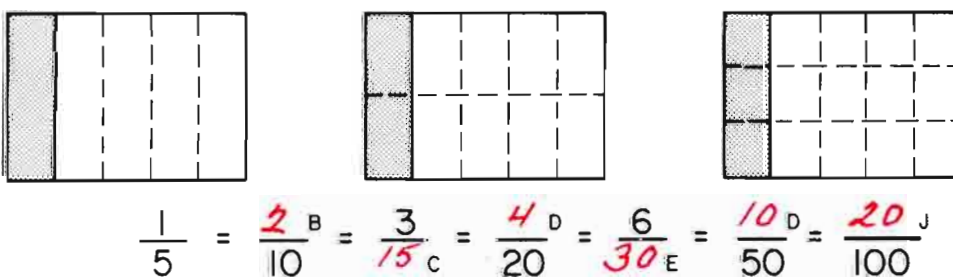
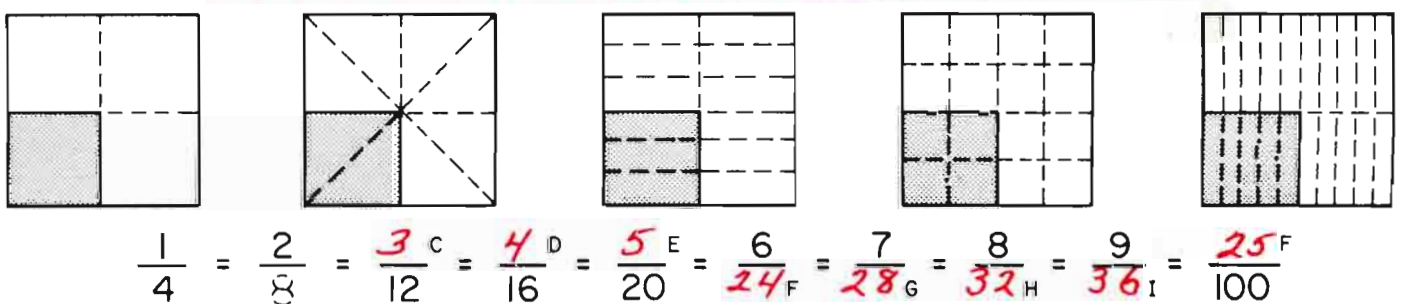
Can you extend them?

¿Puede usted ver las muestras?

¿Puede usted extenderlas?



The children may wish to use folded paper for these.



	A	B	C	D	E
F	6	24	13	25	11
G	28	8	15	4	30
H	12	9	3	17	32
I	36	14	27	1	5
J	21	2	20	10	50

Fact Families

Familias de Cuentas.

$\begin{array}{r} 9 \\ \times 9 \\ \hline 81 \end{array}$ A	$\begin{array}{r} 8 \\ \times 7 \\ \hline 56 \end{array}$ B	$\begin{array}{r} 6 \\ 5 \overline{)30} \end{array}$ C	$\begin{array}{r} 6 \\ 9 \overline{)54} \end{array}$ D
$\begin{array}{r} 8 \\ 7 \overline{)56} \end{array}$	$\begin{array}{r} 9 \\ 6 \overline{)54} \end{array}$	$\begin{array}{r} 9 \\ 9 \overline{)81} \end{array}$	
$30 \div 6 = 5$	$7 \times 8 = 56$		
$54 \div 6 = 9$	$9 \times 9 = 81$		
$\begin{array}{r} 6 \\ \times 5 \\ \hline 30 \end{array}$	$\begin{array}{r} 9 \\ \times 6 \\ \hline 54 \end{array}$	$\begin{array}{r} 7 \\ \times 8 \\ \hline 56 \end{array}$	$\begin{array}{r} 6 \\ \times 9 \\ \hline 54 \end{array}$
$81 \div 9 = 9$	$56 \div 8 = 7$		

$\begin{array}{r} 7 \\ 5 \overline{)35} \end{array}$ F	$\begin{array}{r} 10 \\ 9 \overline{)90} \end{array}$ G	$\begin{array}{r} 20 \\ 9 \overline{)180} \end{array}$ H
$\begin{array}{r} 80 \\ \times 7 \\ \hline 560 \end{array}$ I	$\begin{array}{r} 81 \\ \times 7 \\ \hline 567 \end{array}$ J	$\begin{array}{r} 82 \\ \times 7 \\ \hline 574 \end{array}$ K
$5 \times 7 = 35$ F	$5 \times 21 = 105$ G	
$5 \times 14 = 70$ H	$5 \times 42 = 210$ I	
$\begin{array}{r} 5 \\ 8 \overline{)40} \end{array}$ J	$\begin{array}{r} 100 \\ 8 \overline{)800} \end{array}$ K	$\begin{array}{r} 105 \\ 8 \overline{)840} \end{array}$ L
$\begin{array}{r} 2 \\ 9 \overline{)18} \end{array}$ F	$\begin{array}{r} 50 \\ 9 \overline{)450} \end{array}$ G	$\begin{array}{r} 52 \\ 9 \overline{)468} \end{array}$ J

USED PAPER-BOOKS

1 - 10 8¢ ea.
 11 - 50 7¢ ea.
 51 - 100 6½¢ ea.

$\begin{array}{r} 9 \\ \hline 72 \text{ ¢} \end{array}$ A	
$\begin{array}{r} 76 \\ \hline \$ 4.94 \end{array}$	$\begin{array}{r} 18 \\ \hline \$ 1.26 \end{array}$ A
$\begin{array}{r} 150 \\ \hline \$ 9.75 \end{array}$ C	$\begin{array}{r} 39 \end{array}$ B

Calculator display: 00173.40

A = \$ 173.40

10 × A = \$ 1,734.00

2 × A = \$ 346.80

A + \$ 36.60 = \$ 210.00

$\frac{1}{10} \times A = 17.34$

	A	B	C	D	E
F	7	2	6	45	35
G	50	5.25	105	6	10
H	72	39	346.8	20	70
I	17.34	560	6	210	30
J	50	56	5	567	52
K	81	40	9.75	100	574
L	1.26	1734	173	581	105

Use only numbers from this list

Use solamente números de esta lista

3,4,5,6,7,8,9

A $(4 \times 4) - (3 \times 5) = 1$

A $(6 \times 3) - (4 \times 4) = 2$

B $(7 \times 7) - (8 \times 6) = 1$

B $(6 \times 5) - (4 \times 7) = 2$

C $(4 \times 7) - (9 \times 3) = 1$

C $(8 \times 4) - (6 \times 5) = 2$

D $(4 \times 9) - (7 \times 5) = 1$

D $(5 \times 4) - (6 \times 3) = 2$

E $(8 \times 8) - (9 \times 7) = 1$

E $(7 \times 6) - (5 \times 8) = 2$

Fence Arithmetic

Aritmética Usando Cercas

14's

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

15's

5	5	3	7	7
1	5	1	8	2
1	6	3	2	4
6	5	10	15	3
9	2	2	3	5

16's

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

Loop Arithmetic

Aritmética de Lazo

$10 \times 9 = 90$ A

$20 \times 9 = 180$ B

$30 \times 90 = 2,700$ C

$10 \times 900 = 9,000$ D

$20 \times 90 = 1,800$ E

$30 \times 900 = 27,000$ A

$100 \times 900 = 90,000$ B

$200 \times 90 = 18,000$ C

$3000 \times 9 = 27,000$ D

$50 \times 900 = 45,000$ E

A $\begin{array}{r} 3 \\ 3 \\ 7 \\ 7 \\ 8 \\ 8 \\ \hline 25 \end{array}$

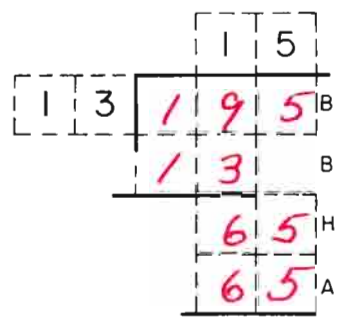
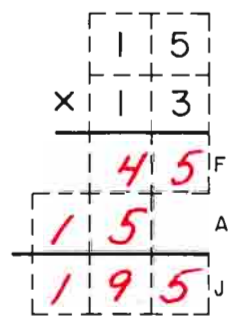
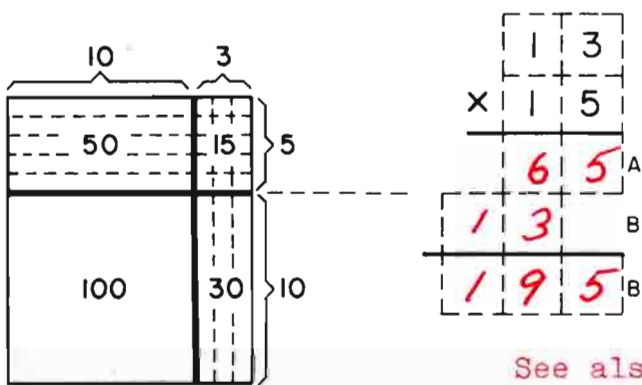
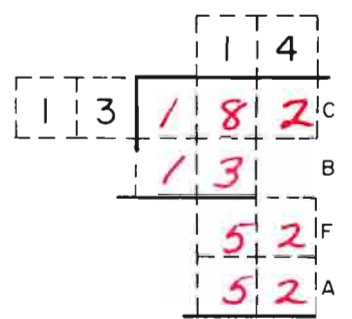
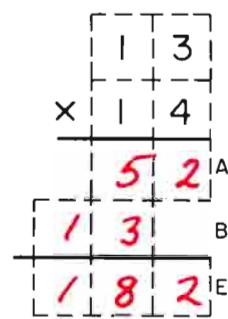
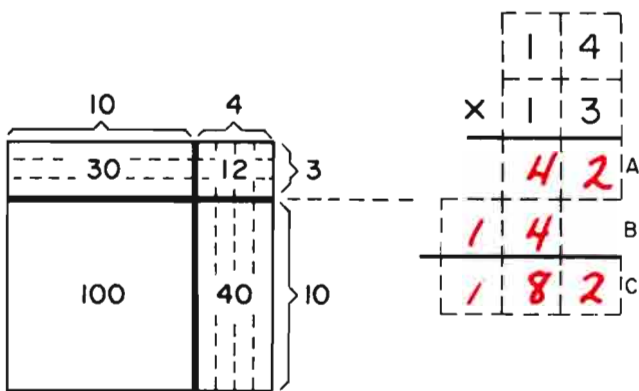
B $\begin{array}{r} 4 \\ 4 \\ 5 \\ 5 \\ 7 \\ 7 \\ \hline 23 \end{array}$

C $\begin{array}{r} 4 \\ 4 \\ 6 \\ 6 \\ 9 \\ 9 \\ \hline 23 \end{array}$

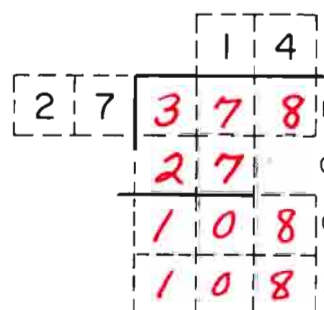
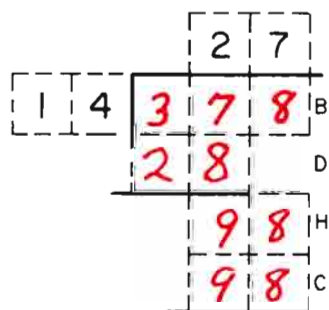
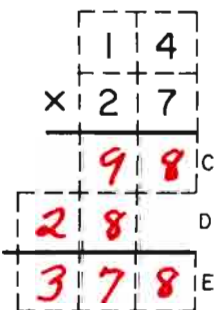
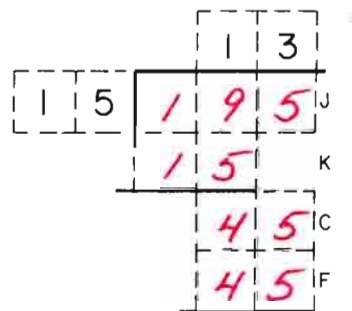
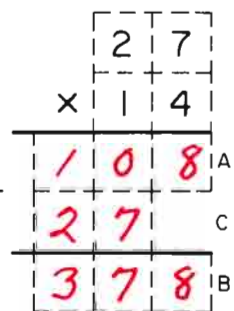
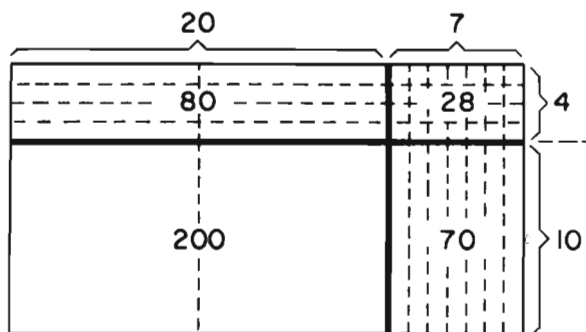
D $\begin{array}{r} 3 \\ 3 \\ 3 \\ 8 \\ 8 \\ 8 \\ \hline 22 \end{array}$

E $\begin{array}{r} 2 \\ 3 \\ 4 \\ 9 \\ 9 \\ 9 \\ \hline 30 \end{array}$

A	B	C	D	E
90	7,8	4,4,6,9	27,000	1,800
4,3	90,000	2,700	4,7	8,9
3,7,7,8	6,4	8,6	9,000	45,000
6,4	180	18,000	3,3,8,8	7,5
27,000	4,5,7,7	4,9	5,6	3,9,9,9



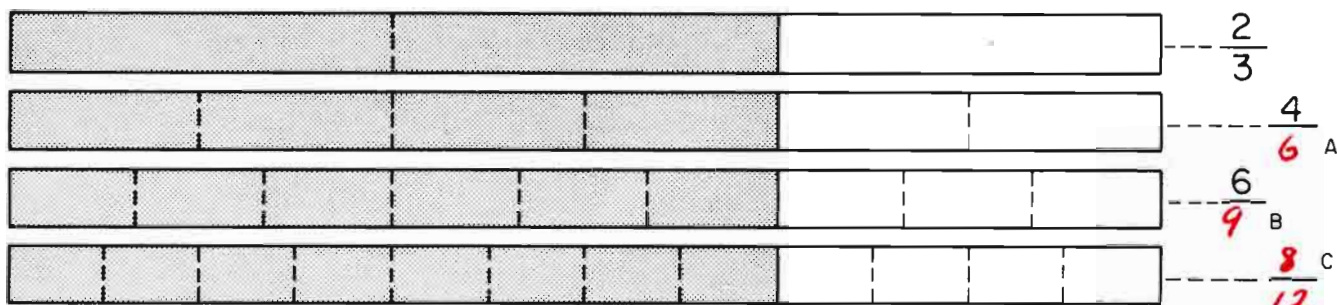
See also: D&P 218-221



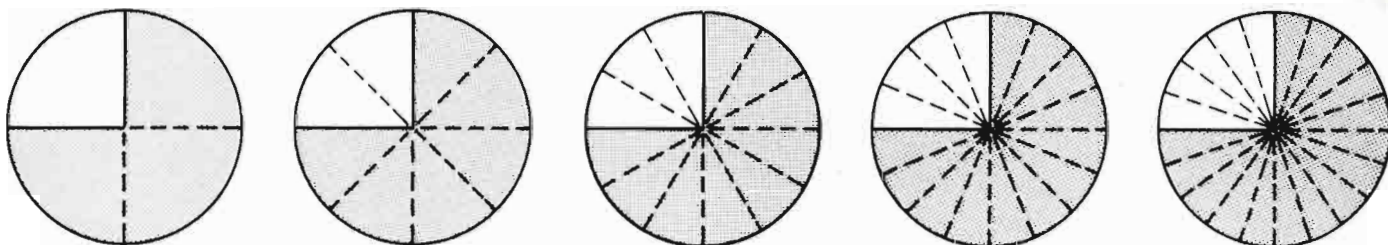
	A	B	C
D	15	28	280
E	37	378	182
F	52	13	45
G	150	140	270
H	65	14	98
I	42	130	108
J	53	195	27
K	108	150	15

Can you see the patterns?
Can you extend them?

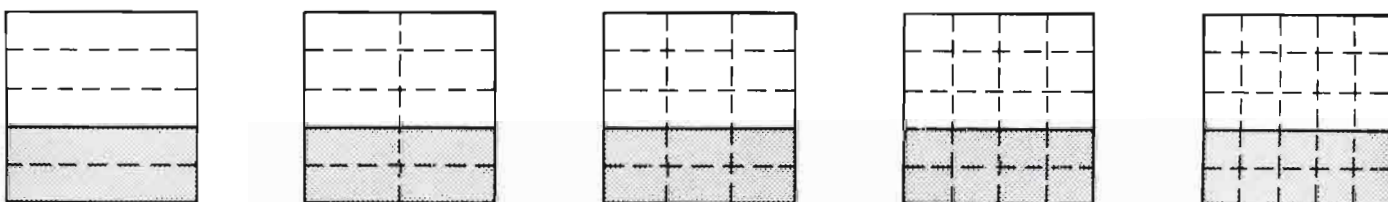
¿Puede usted ver las muestras?
¿Puede Usted Extenderlas?



$$\frac{2}{3} = \frac{4}{6}^A = \frac{6}{9}^B = \frac{8}{12}^C = \frac{10}{15}^D = \frac{12}{18}^E = \frac{14}{21}^A = \frac{20}{30}^B = \frac{40}{60}^C = \frac{60}{90}^D$$



$$\frac{3}{4} = \frac{6}{8}^A = \frac{9}{12}^B = \frac{12}{16}^E = \frac{15}{20}^F = \frac{24}{32}^G = \frac{30}{40}^B = \frac{45}{60}^C = \frac{60}{80}^D = \frac{75}{100}^E$$



$$\frac{2}{5} = \frac{4}{10}^D = \frac{6}{15}^E = \frac{8}{20}^F = \frac{10}{25}^D = \frac{16}{40}^E = \frac{20}{50}^F = \frac{30}{75}^G = \frac{40}{100}^H = \frac{80}{200}^I$$



$$\frac{5}{6} = \frac{10}{12}^J = \frac{15}{18}^A = \frac{20}{24}^B = \frac{25}{30}^C = \frac{35}{42}^D = \frac{50}{60}^A$$

	A	B	C	D	E
F	11	20	8	19	15
G	18	30	25	10	32
H	6	17	40	35	75
I	50	9	80	60	16
J	21	13	45	23	12

1  = 10  = 100 

			
	2.00	20	200
+	1.50	15	150
	3.50 _A	35 _B	350 _C

			
	2.10	21 _G	210 _H
-	1.70	17	170
	.40 _D	4 _E	40 _F

			
	2.50	25	250
	× 2	× 2	× 2
	5.00 _A	50 _B	500 _C

			
	1.50	15	150
	÷ 3	÷ 3	÷ 3
	.50 _G	5 _H	50 _I

			
	1.25	12.5	125
+	3.15	31.5 _G	315
	4.40 _J	44.0 _K	440 _L

			
	2.71	27.1	271
-	.25	2.5 _E	25
	2.46 _A	24.6 _B	246 _C

			
	1.50	15	150
	× 10	× 10	× 10
	15.00	150 _H	1,500 _I

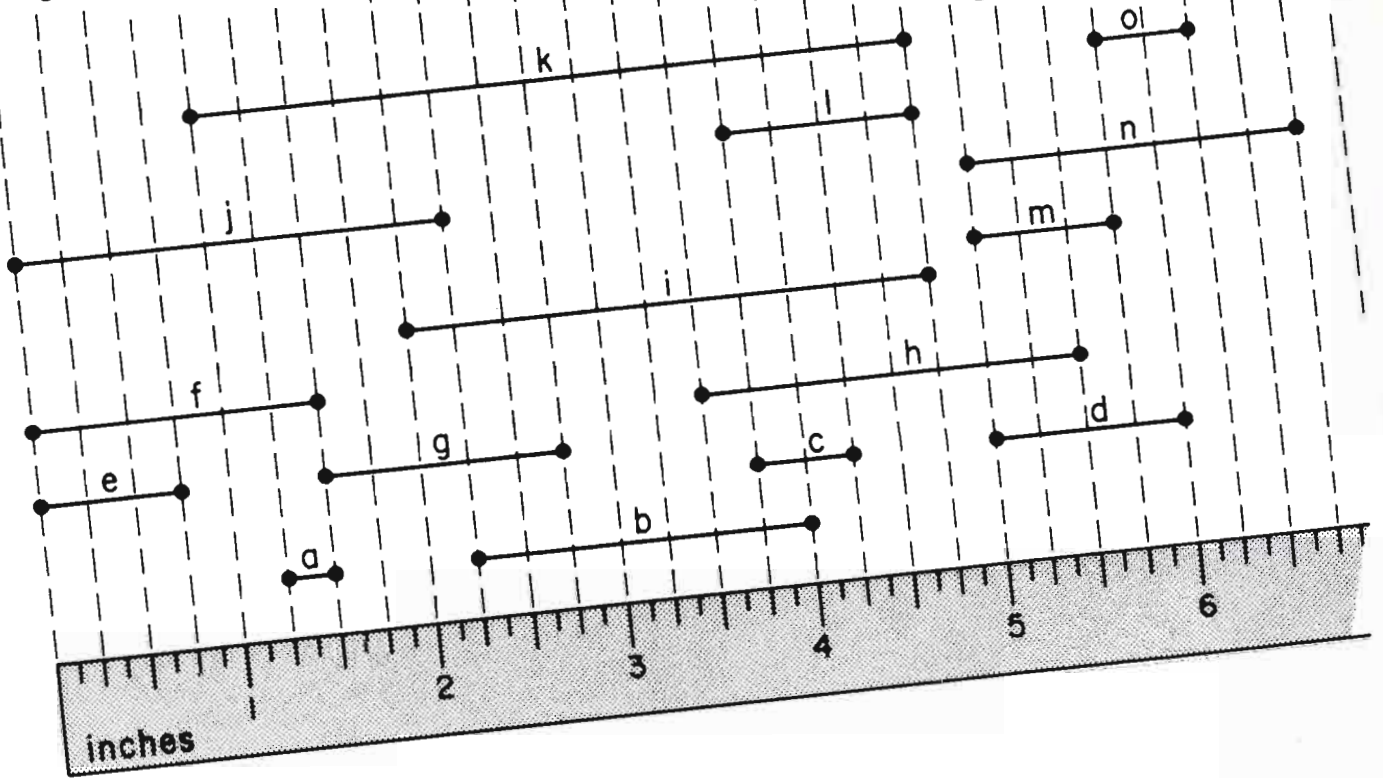
			
	1.50	15	150
	÷ 10	÷ 10	÷ 10
	.15 _D	1.5 _E	15 _F

			
	4.75	47.5	475
+	1.25	12.5 _C	125
	6.00 _J	60.0 _K	600 _L

	A	B	C	D	E	F
G	14	.50	31.5	1500	21	15
H	3.50	150	500	210	4	5
I	2.46	50	246	.40	2.5	1500
J	18	35	6.00	4.40	1.5	4.75
K	5.00	44	12.5	.15	60	40
L	600	24.6	350	16	17	440

Lengths of lines shown.

Los largos de las líneas mostradas.



a. $\frac{1}{4}$ in.
A

d. 1 in.
D

g. $1\frac{1}{4}$ in.
C

j. $2\frac{1}{4}$ in.
B

m. $\frac{3}{4}$ in.
A

b. $1\frac{3}{4}$ in.
B

e. $\frac{3}{4}$ in.
A

h. 2 in.
D

k. $3\frac{3}{4}$ in.
C

n. $1\frac{3}{4}$ in.
B

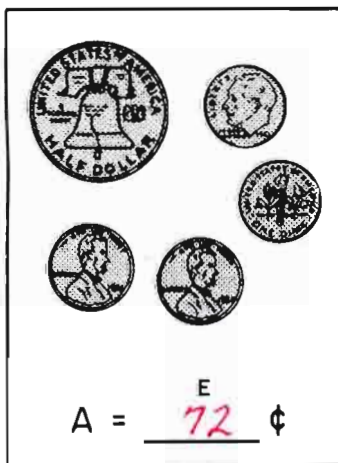
c. $\frac{1}{2}$ in.
C

f. $1\frac{1}{2}$ in.
B

i. $2\frac{3}{4}$ in.
A

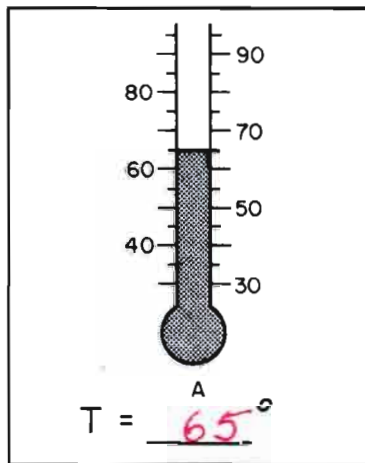
l. 1 in.
D

o. $\frac{1}{2}$ in.
C



A = 72 ¢

	$\frac{1}{3} \times A$
G	24 ¢
	$\frac{2}{3} \times A$
H	48 ¢
	$3 \times A$
J	$\$2.16$



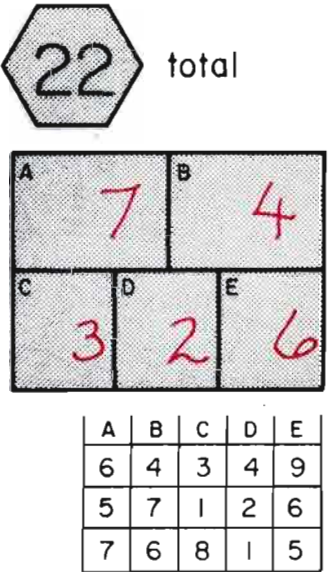
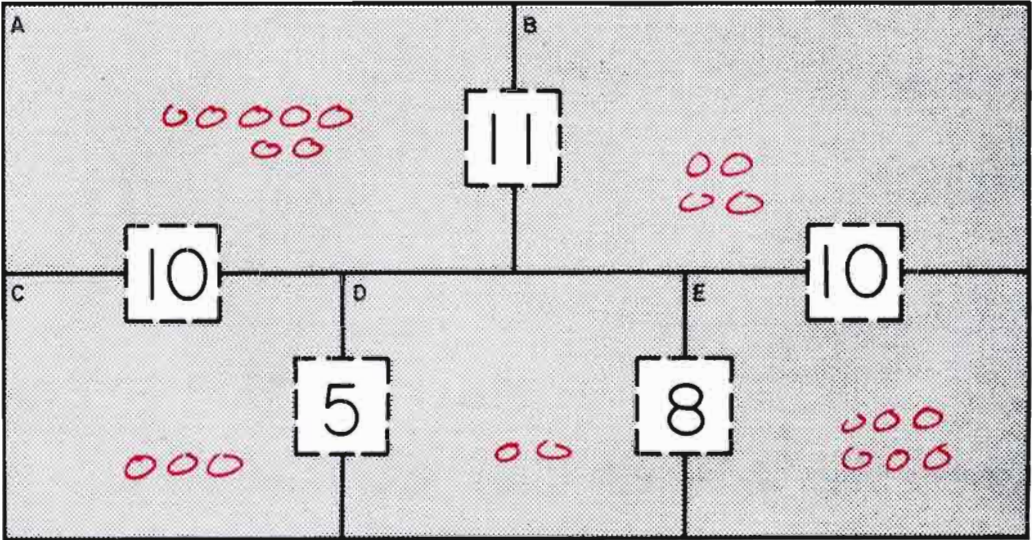
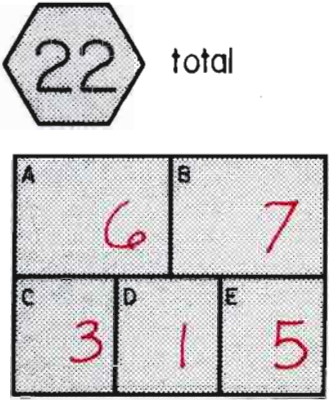
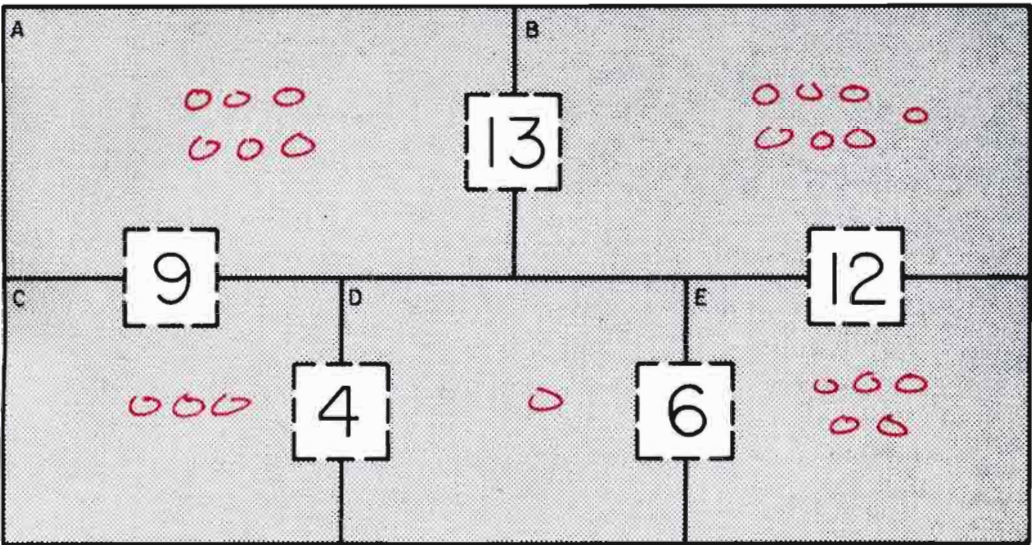
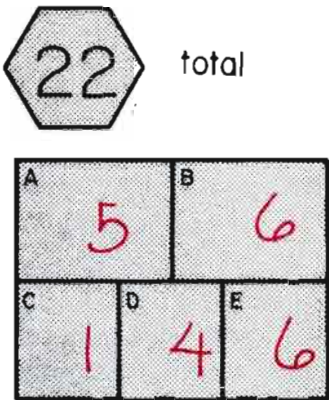
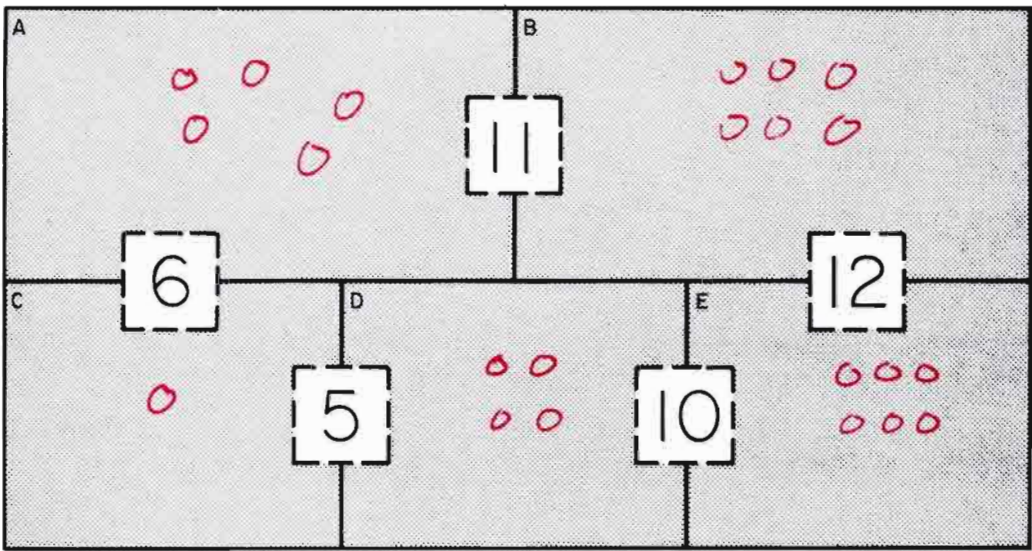
T = 65°

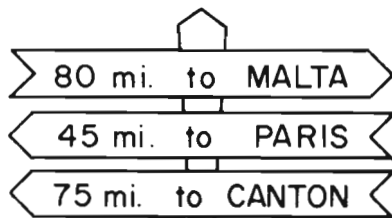
	$T + 9^\circ$
C	74°
	$T + 18^\circ$
B	83°

	$\frac{1}{4} \times A$
I	18 ¢
	$2 \times A$
F	$\$1.44$
	$10 \times A$
E	$\$7.20$
	$\frac{3}{4} \times A$
G	54 ¢

	$T - 9^\circ$
D	56°
	$T - 33^\circ$
A	32°

	A	B	C	D
E	32	83	72	7.20
F	$2\frac{3}{4}$	$1\frac{3}{4}$	$1\frac{1}{4}$	1.44
G	54	24	$\frac{1}{2}$	2
H	$\frac{1}{4}$	$1\frac{1}{2}$	74	48
I	65	$2\frac{1}{4}$	18	1
J	$\frac{3}{4}$	2.16	$3\frac{3}{4}$	56





$C - P$	30 miles
$P + M$	125 miles
$\frac{2}{3} \times P$	30 miles
$50\% \times M$	40 miles
$2 \times (P + M)$	250 miles

C at 50 m.p.h.	1½ hrs.	2M	160 miles
----------------	---------	----	-----------



How do you feel?
¿Cómo se siente?

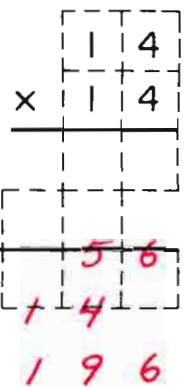
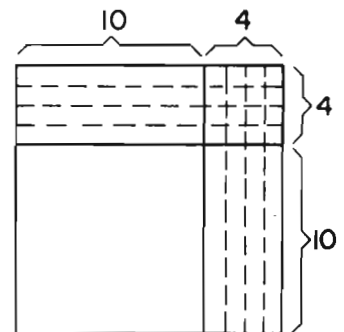
$\begin{array}{r} 9 \\ 8 \\ + 6 \\ \hline 23 \end{array}$	$\begin{array}{r} 9 \\ \times 8 \\ \hline 72 \end{array}$	$\begin{array}{r} 7 \\ 8 \overline{)56} \end{array}$
$\begin{array}{r} 100 \\ - 65 \\ \hline 35 \end{array}$	$\begin{array}{r} 17 \\ 17 \\ + 17 \\ \hline 51 \end{array}$	$\begin{array}{r} 9 \\ 7 \overline{)63} \end{array}$

$$(8 \times 7) - (5 \times 9) = 11$$

$$\$2.10 \div 3 = \$.70$$

$$\$2.10 \times 10 = \$ 21.00$$

$$100 \times 500 = 50,000$$



$$\frac{6}{4} = \frac{3}{2}$$

$$\frac{6}{9} = \frac{2}{3}$$

$$\frac{1}{4} = \frac{3}{12}$$

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

$$2\frac{1}{4} = \frac{9}{4}$$

$$1\frac{2}{3} = \frac{5}{3}$$

Sale

Tiles 24¢

Aluminum Strips 40¢

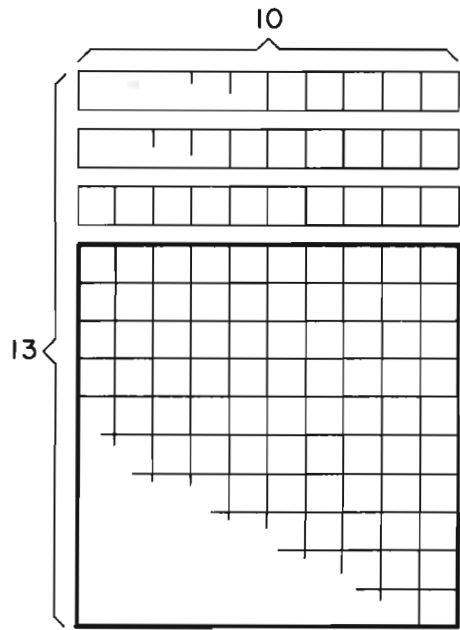
Paint
1 quart \$1.20

25% or $\frac{1}{4}$ off

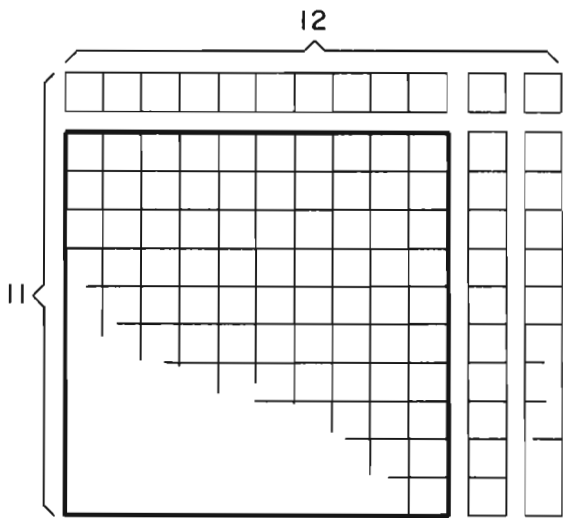
10 Tiles	Sale Price	20 Aluminum Strips	Sale Price
	\$1.80		\$6.00
8 Aluminum Strips	\$2.40	2½ quarts Paint	\$2.25
4 quarts Paint	\$3.60	100 Tiles	\$18.00
30 Tiles	\$5.40	3 quarts Paint	\$2.70

What Can You See?

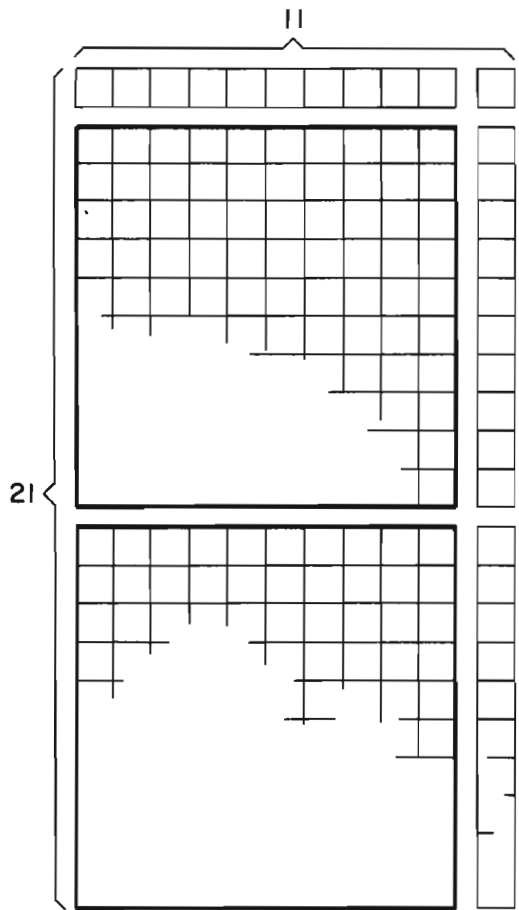
¿Qué Puede Usted Ver?



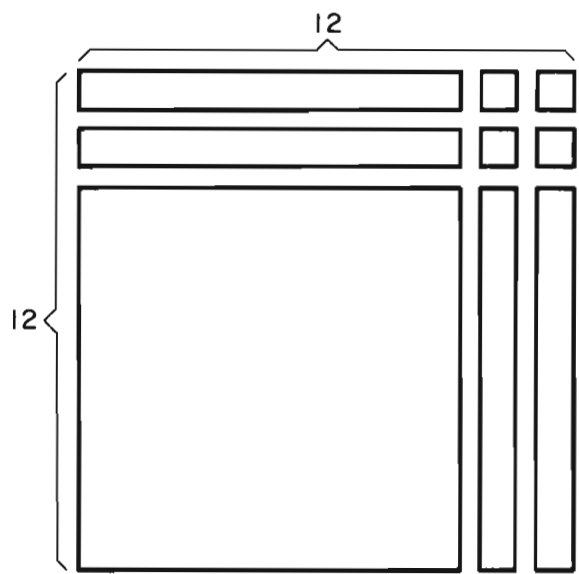
$$\begin{array}{r} 10 \\ \times 13 \\ \hline 130 \end{array} \quad \begin{array}{r} 10 \\ 13 \overline{) 130} \\ \hline \end{array}$$



$$\begin{array}{r} 12 \\ \times 11 \\ \hline 132 \end{array} \quad \begin{array}{r} 12 \\ 11 \overline{) 132} \\ \hline \end{array}$$

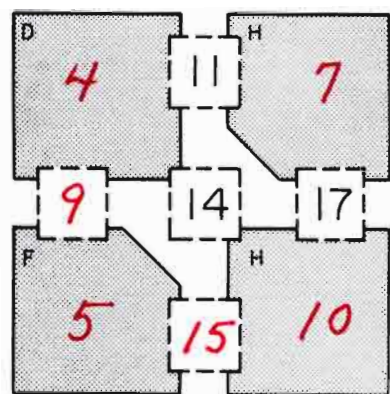
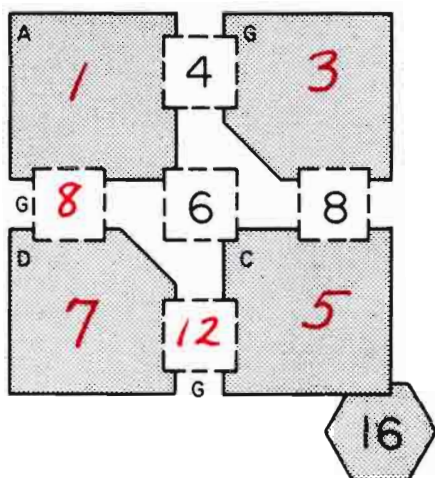
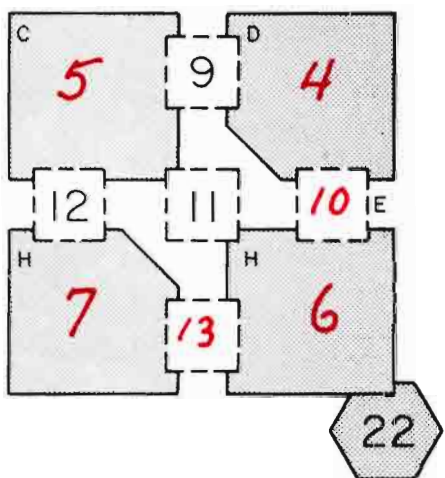
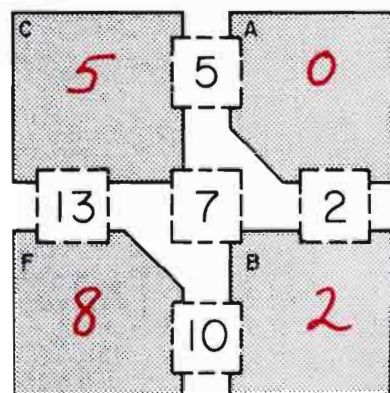
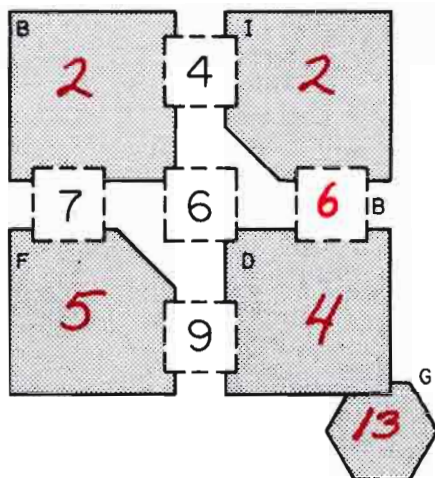
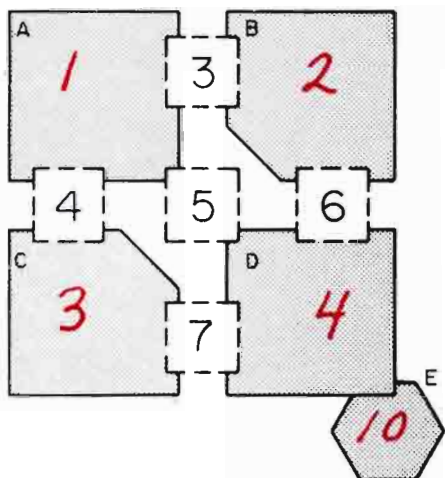
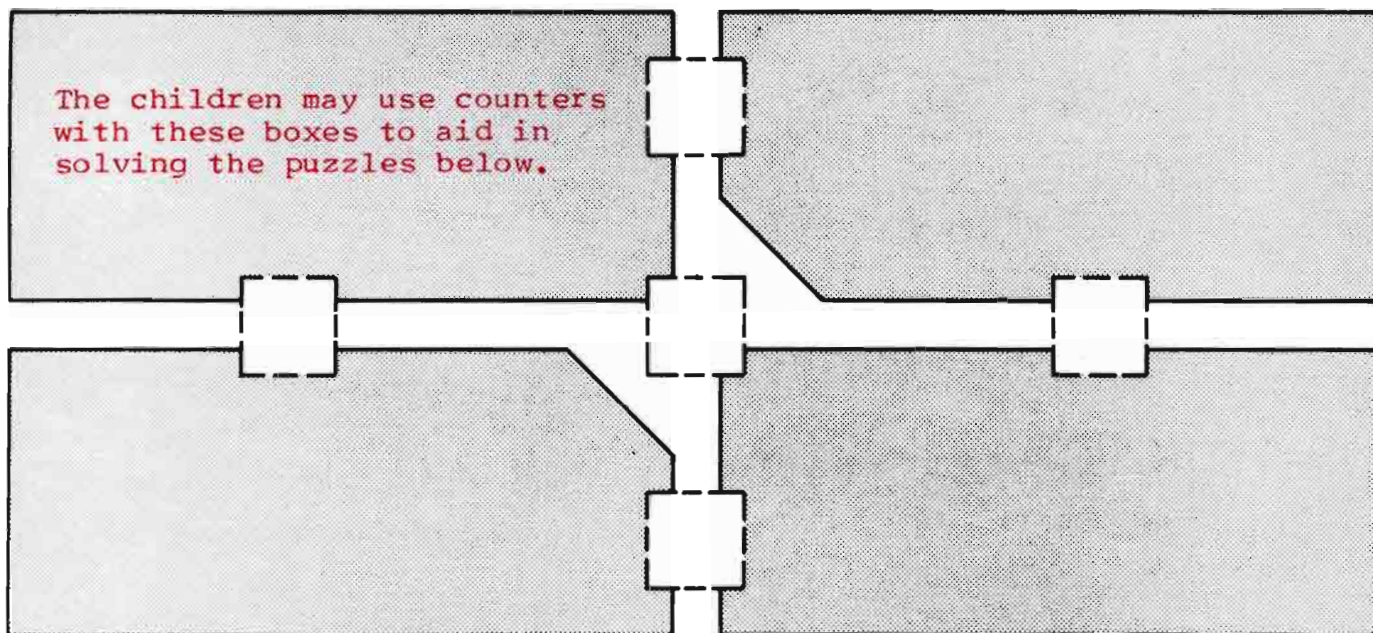


$$\begin{array}{r} 11 \\ \times 21 \\ \hline 231 \end{array} \quad \begin{array}{r} 11 \\ 21 \overline{) 231} \\ \hline \end{array}$$



$$\begin{array}{r} 12 \\ \times 12 \\ \hline 144 \end{array} \quad \begin{array}{r} 12 \\ 12 \overline{) 144} \\ \hline \end{array}$$

A	B	C	D
231	130	136	144
130	231	132	136
231	230	144	132



	A	B	C	D	E	F
G	0	12	3	9	13	8
H	1	6	5	7	10	12
I	22	2	11	4	14	5

Fact Families

Familias de Cuentas

$\begin{array}{r} 8 \\ \times 8 \\ \hline 64 \end{array}$ A	$\begin{array}{r} 7 \\ \times 5 \\ \hline 35 \end{array}$ B	$\begin{array}{r} 6 \\ 6 \overline{)36} \end{array}$ C	$\begin{array}{r} 7 \\ 9 \overline{)63} \end{array}$ D
$\begin{array}{r} 5 \\ 7 \overline{)35} \end{array}$	$\begin{array}{r} 8 \\ 8 \overline{)64} \end{array}$	$\begin{array}{r} 7 \\ 5 \overline{)35} \end{array}$	
$64 \div 8 = 8$	$36 \div 6 = 6$		
$35 \div 7 = 5$	$63 \div 7 = 9$		
$\begin{array}{r} 6 \\ \times 6 \\ \hline 36 \end{array}$	$\begin{array}{r} 9 \\ \times 7 \\ \hline 63 \end{array}$	$\begin{array}{r} 5 \\ \times 7 \\ \hline 35 \end{array}$	$\begin{array}{r} 7 \\ \times 9 \\ \hline 63 \end{array}$
$6 \times 6 = 36$	$7 \times 9 = 63$		

$\begin{array}{r} 12 \\ 6 \overline{)72} \end{array}$	$\begin{array}{r} 14^G \\ 9 \overline{)126} \end{array}$	$\begin{array}{r} 16^H \\ 8 \overline{)128} \end{array}$	
$\begin{array}{r} 16 \\ \times 8 \\ \hline 128^I \end{array}$	$\begin{array}{r} 14 \\ \times 5 \\ \hline 70^J \end{array}$	$\begin{array}{r} 12 \\ \times 6 \\ \hline 72^K \end{array}$	$\begin{array}{r} 18 \\ \times 7 \\ \hline 126^L \end{array}$
$8 \times 9 = 72^F$	$8 \times 27 = 216^G$		
$8 \times 18 = 144^H$	$8 \times 36 = 288^I$		
$\begin{array}{r} 50^J \\ 7 \overline{)350} \end{array}$	$\begin{array}{r} 6^K \\ 7 \overline{)42} \end{array}$	$\begin{array}{r} 56^L \\ 7 \overline{)392} \end{array}$	
$\begin{array}{r} 6^F \\ 9 \overline{)54} \end{array}$	$\begin{array}{r} 70^I \\ 9 \overline{)630} \end{array}$	$\begin{array}{r} 76^K \\ 9 \overline{)684} \end{array}$	

1 gallon....	
24 miles	
$\frac{2}{3}$ gallon	
16 miles	
120 miles	36 miles
5 gallons B	$1\frac{1}{2}$ gallons A
$2\frac{1}{2}$ gallons	360 miles
60 miles C	15 gallons B

SPEED LIMIT	
55 m.p.h.	
S = 55	
$S + 5\frac{1}{2}$	$2S$
$60\frac{1}{2}$ m.p.h. C	110 m.p.h. A
	$2S + \frac{1}{2}S$
	$137\frac{1}{2}$ m.p.h.
	$S - 7\frac{1}{2}$
	$47\frac{1}{2}$ m.p.h. C

	A	B	C	D	E
F	101	75	72	8	6
G	72	5	14	7	216
H	$1\frac{1}{2}$	35	$47\frac{1}{2}$	144	16
I	64	15	288	128	70
J	19	55	$60\frac{1}{2}$	70	50
K	16	72	60	6	76
L	110	56	6	84	126

Use only numbers from this list

Use solamente números de esta lista

3, 4, 5, 6, 7

A $(5 \times 5) - (5 \times 4) = 5$

B $(3 \times 7) - (4 \times 4) = 5$

C $(4 \times 8) - (3 \times 9) = 5$

D $(5 \times 4) - (5 \times 3) = 5$

E $(6 \times 9) - (7 \times 7) = 5$

A $(5 \times 5) - (3 \times 6) = 7$

B $(4 \times 8) - (5 \times 5) = 7$

C $(7 \times 8) - (7 \times 7) = 7$

D $(7 \times 9) - (7 \times 8) = 7$

E $(7 \times 6) - (7 \times 5) = 7$

Fence Arithmetic

10's

5	5	2	3	7
1	2	5	3	1
4	7	3	2	2
1	2	4	3	5
7	3	3	5	5

15's

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

Aritmética Usando Cercas

20's

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

Loop Arithmetic

A $\begin{array}{r} 4 \\ 4 \\ 6 \\ 6 \\ 9 \\ 9 \\ \hline 17 \end{array}$

B $\begin{array}{r} 4 \\ 4 \\ 6 \\ 6 \\ 9 \\ 9 \\ \hline 20 \end{array}$

C $\begin{array}{r} 4 \\ 4 \\ 6 \\ 6 \\ 9 \\ 9 \\ \hline 22 \end{array}$

D $\begin{array}{r} 4 \\ 4 \\ 6 \\ 6 \\ 9 \\ 9 \\ \hline 21 \end{array}$

E $\begin{array}{r} 4 \\ 4 \\ 6 \\ 6 \\ 9 \\ 9 \\ \hline 26 \end{array}$

Aritmética de Lazo

$5 \times 80 = 400$ A

$8 \times 50 = 400$ B

$5 \times 20 = 100$ C

$80 \times 20 = 1,600$ D

$50 \times 20 = 1,000$ E

$50 \times 80 = 4,000$ A

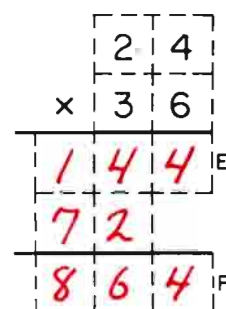
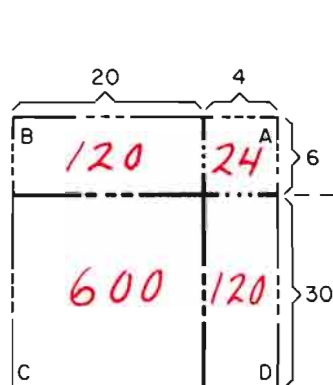
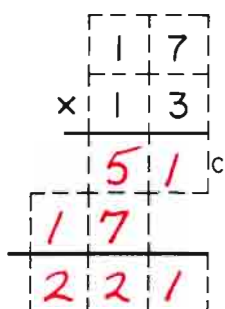
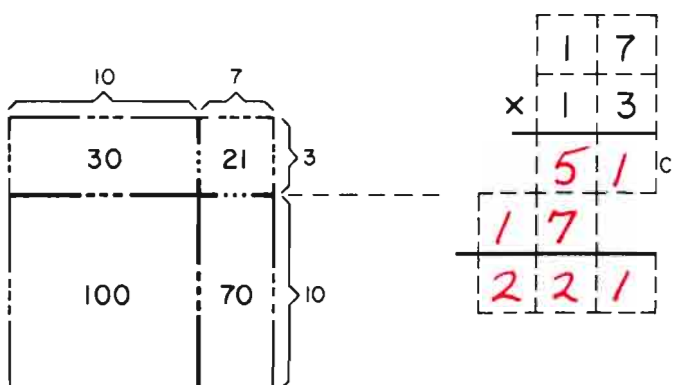
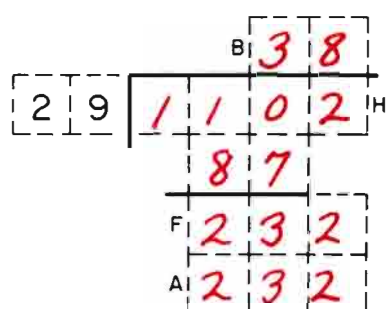
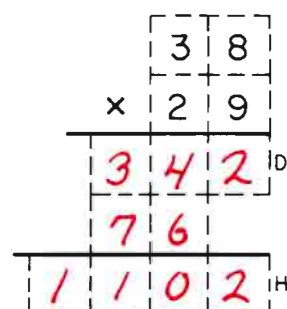
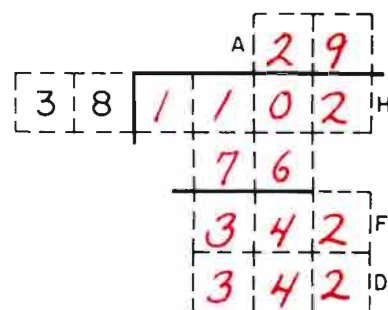
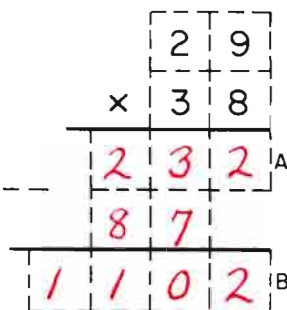
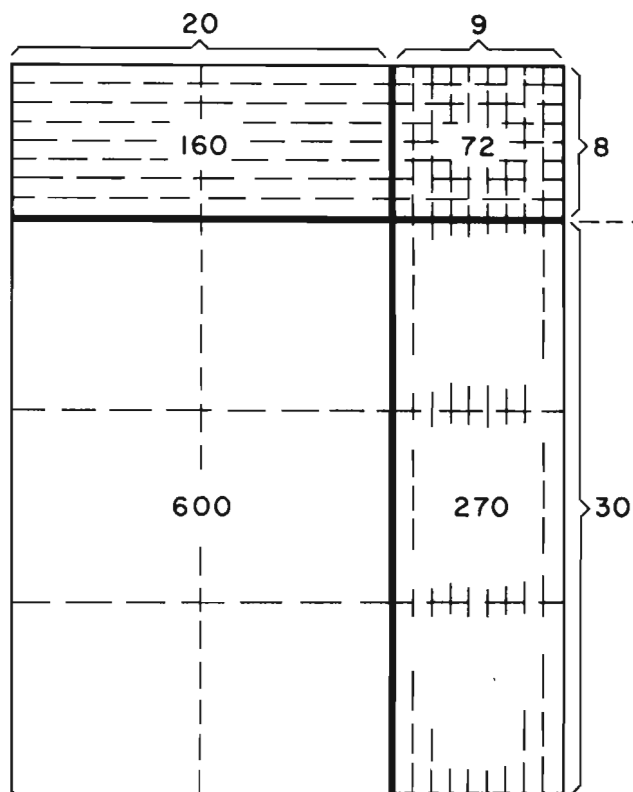
$50 \times 50 = 2,500$ B

$5 \times 800 = 4,000$ C

$50 \times 200 = 10,000$ D

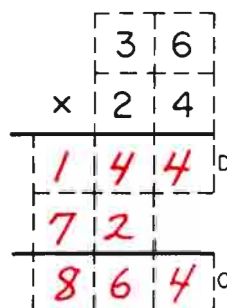
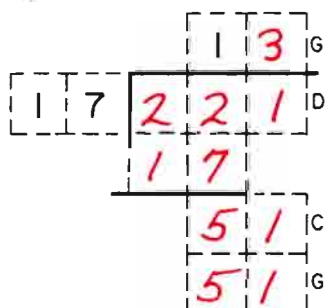
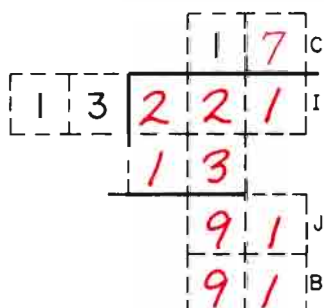
$50 \times 500 = 25,000$ E

A	B	C	D	E
5,5	400	100	10,000	4,4,9,9
4,4,9	4,5	4,3	7,7	25,000
5,3	3,4	4,000	6,6,9	6,7
4,000	2,500	4,9,9	5,5	1,000
400	4,4,6,6	7,7	1600	7,7



See also: D&P 207-215

See also: D.I. 145-151



	A	B	C	D
E	101	38	97	144
F	232	120	864	342
G	3	341	51	120
H	24	1102	600	1000
I	29	500	7	221
J	7	91	0	797

"Simplest Form" or "Lowest Terms" "La Forma más Sencilla" o "En Términos Reducidos"

$$\boxed{\frac{1}{2}} = \frac{2^C}{4} = \frac{3^A}{6} = \frac{4^I}{8} = \frac{5^C}{10}$$

$$\boxed{\frac{1}{6}} = \frac{2^K}{12} = \frac{4^L}{24} = \frac{8^E}{48}$$

$$\boxed{\frac{7}{8}} = \frac{14}{16} = \frac{21^H}{24} = \frac{28}{32}$$

$$\boxed{\frac{1}{3}} = \frac{2}{6} = \frac{3^M}{9} = \frac{4^L}{12} = \frac{5^M}{15}$$

$$\boxed{\frac{5}{6}} = \frac{10}{12} = \frac{15^E}{18} = \frac{30^J}{36}$$

$$\boxed{1\frac{1}{2}} = \frac{3^M}{2} = \frac{6^L}{4} = \frac{12^F}{8}$$

$$\boxed{\frac{2}{3}} = \frac{4^I}{6} = \frac{6^L}{9} = \frac{8^K}{12} = \frac{10^J}{15}$$

$$\boxed{\frac{1}{8}} = \frac{2}{16} = \frac{4^I}{32} = \frac{8^K}{64}$$

$$\boxed{1\frac{1}{3}} = \frac{4}{3} = \frac{8^E}{6} = \frac{16^I}{12}$$

$$\boxed{\frac{1}{4}} = \frac{2}{8} = \frac{3^A}{12} = \frac{10^D}{40} = \frac{25^A}{100}$$

$$\boxed{\frac{3}{8}} = \frac{6}{16} = \frac{9^M}{24} = \frac{12^J}{32}$$

$$\boxed{1\frac{1}{4}} = \frac{5}{4} = \frac{10^J}{8} = \frac{15^E}{12}$$

$$\boxed{\frac{3}{4}} = \frac{6^G}{8} = \frac{9^H}{12} = \frac{60^B}{80} = \frac{75^D}{100}$$

$$\boxed{\frac{5}{8}} = \frac{10}{16} = \frac{15^J}{24} = \frac{20^K}{32}$$

$$\boxed{1\frac{1}{6}} = \frac{7}{6} = \frac{14^F}{12} = \frac{21^K}{18}$$

Encourage the children to use their answers to the table above when working the problems below.

$\frac{3}{4} = \frac{6}{8}^G$ $-\frac{3}{8} = \frac{3}{8}$ $\boxed{\frac{3}{8}}^L = \frac{3}{8}$	$\frac{3}{2} = \frac{6}{4}^L$ $-\frac{1}{4} = \frac{1}{4}$ $\boxed{1\frac{1}{4}}^L = \frac{5}{4}$
$\frac{1}{2} = \frac{3}{6}^M$ $-\frac{1}{3} = \frac{2}{6}$ $\boxed{\frac{1}{6}}^J = \frac{1}{6}$	$\frac{3}{2} = \frac{9}{6}^I$ $-\frac{1}{3} = \frac{2}{6}$ $\boxed{1\frac{1}{6}}^M = \frac{7}{6}$

$$\frac{3}{4} + \frac{1}{2} = \frac{3}{4} + \frac{2}{4} = \frac{5^G}{4} = \boxed{1\frac{1}{4}}^L$$

$$\frac{1}{2} + \frac{1}{3} = \frac{3^E}{6} + \frac{2}{6} = \boxed{\frac{5}{6}}^J$$

$$\frac{5}{8} + \frac{1}{4} = \frac{5}{8} + \frac{2}{8} = \boxed{\frac{7}{8}}^A$$

$$\frac{2}{3} + \frac{2}{3} = \frac{4}{3} = \boxed{1\frac{1}{3}}^B$$

$$\frac{3}{8} + \frac{3}{4} = \frac{3}{8} + \frac{6}{8} = \frac{9}{8} = \boxed{1\frac{1}{8}}^H$$

	A	B	C	D	E	F	G	H	I
J	25	$\frac{2}{4}$	$\frac{5}{6}$	10	15	12	$\frac{1}{6}$	$1\frac{1}{8}$	30
K	$\frac{7}{8}$	$\frac{1}{4}$	2	$\frac{1}{8}$	8	20	$\frac{6}{8}$	21	16
L	$\frac{1}{3}$	60	$1\frac{1}{4}$	75	$\frac{3}{8}$	14	6	$\frac{6}{4}$	4
M	3	$1\frac{1}{3}$	5	$1\frac{1}{6}$	$\frac{3}{6}$	$\frac{5}{8}$	$\frac{5}{4}$	9	$\frac{9}{6}$

1 Meter (M) = 10 Decimeters (D) = 100 Centimeters (Cm)

	Meters	Deci - M	Centi - M
	7	70 _D	700 _E
+	3	30 _F	300 _G
	10 _A	100 _B	1,000 _C

	M	D	Cm
	1.5 _A	15 _B	150 _C
+	4.5 _J	45 _K	450 _L
	6.0 _D	60 _E	600 _F

	M	D	Cm
	2.0	20 _G	200 _H
-	.5	5 _I	50 _J
	1.5 _A	15 _B	150 _C

	M	D	Cm
	1.00 _G	10.0	100 _B
-	.25	2.5 _G	25 _H
	.75 _D	7.5 _E	75 _F

	M	D	Cm
	7.1	71 _A	710
	$\times 2$	$\times 2$	$\times 2$
	14.2 _A	142 _B	1,420 _C

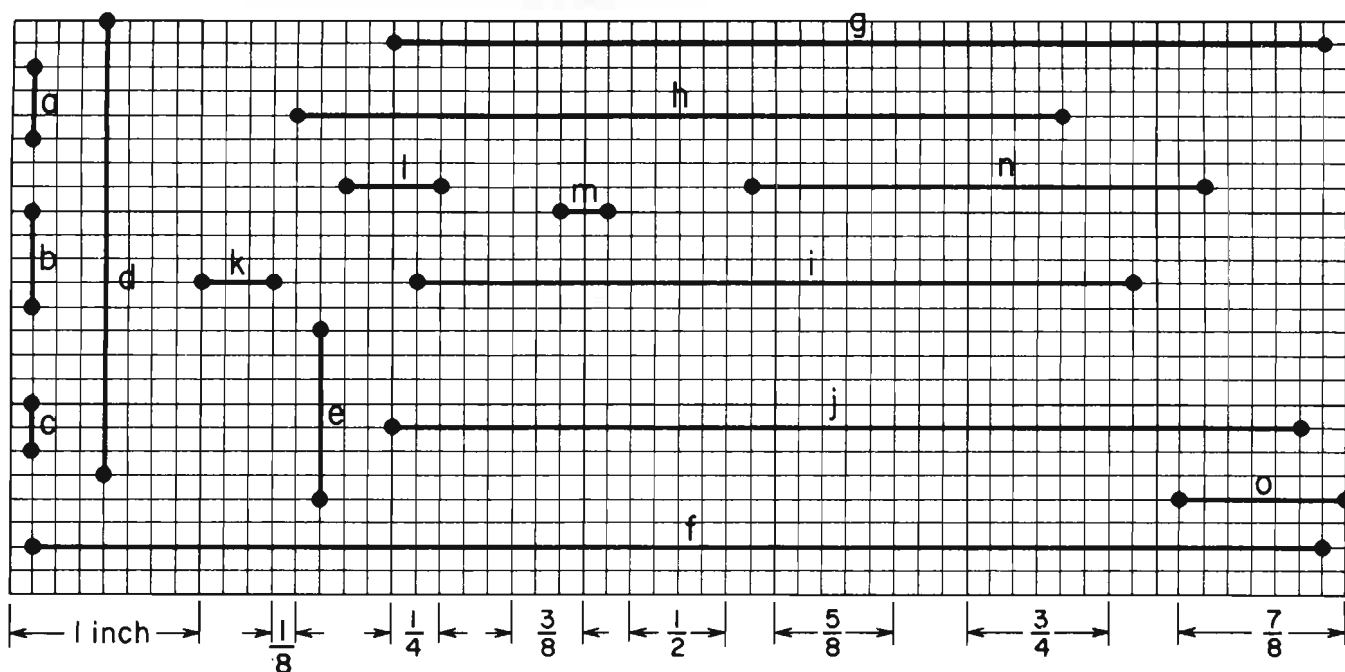
	M	D	Cm
	3 _I	30 _G	300
	$\div 2$	$\div 2$	$\div 2$
	1.5 _A	15 _B	150 _C

	M	D	Cm
	.75 _D	7.5 _K	75
	$\times 10$	$\times 10$	$\times 10$
	7.5 _E	75 _F	750 _G

	M	D	Cm
	1 _G	10	100 _B
	$\div 10$	$\div 10$	$\div 10$
	.1 _A	1 _B	10 _I

	M	D	Cm
	.25 _B	2.5 _D	25
+	.75 _D	7.5 _E	75
	1.00 _G	10 _I	100 _H

	A	B	C	D	E	F
G	20	1	300	2.5	30	750
H	14.2	100	150	200	25	600
I	10	.25	3	.75	5	75
J	71	4.5	50	70	60	30
K	1.5	142	1000	45	7.5	?
L	.1	15	1420	6	700	450



Lengths of lines shown.

a. $\frac{3}{8}$ in.
A
b. $\frac{1}{2}$ in.
B
c. $\frac{1}{4}$ in.
C

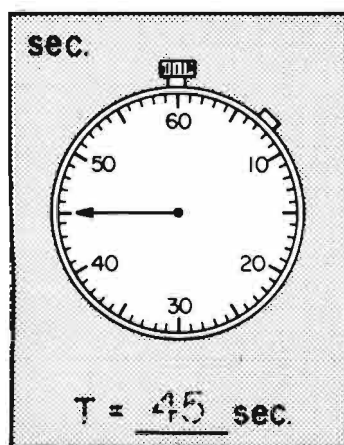
d. $\frac{2}{8}$ in.
D
e. $\frac{7}{8}$ in.
E
f. $\frac{6}{4}$ in.
F

g. $\frac{4}{8}$ in.
G
h. $\frac{4}{8}$ in.
H
i. $\frac{3}{4}$ in.
I

Los largos de las líneas mostradas.

j. $\frac{4}{4}$ in.
J
k. $\frac{3}{8}$ in.
A
l. $\frac{1}{2}$ in.
B

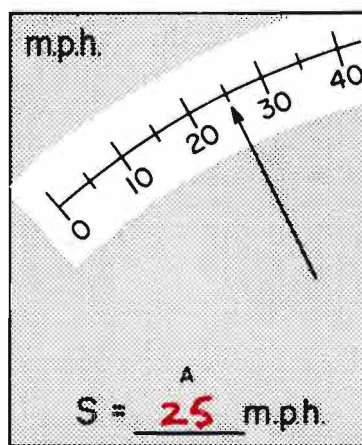
m. $\frac{1}{4}$ in.
C
n. $\frac{2}{8}$ in.
D
o. $\frac{7}{8}$ in.
E



T = 45 sec.

	$\frac{1}{2} \times T$
D	$22\frac{1}{2}$ sec.
	$\frac{1}{3} \times T$
B	15 sec.
	$\frac{1}{5} \times T$
E	9 sec.

	$2 \times T$
C	90 sec.
	$T + 17$
F	62 sec.
	$T - 17$
G	28 sec.
	$\frac{4}{5} \times T$
	36 sec.



S = 25 mph.

	$S + 18$
C	43 mph.
	$S - 8$
D	17 mph.
	$\frac{1}{2} S$
E	$12\frac{1}{2}$ mph.

	25
B	50 mph.

	A	B	C	D
E	$12\frac{1}{2}$	9	$\frac{7}{8}$	17
F	$\frac{3}{8}$	15	62	$6\frac{3}{4}$
G	45	$\frac{1}{2}$	$4\frac{7}{8}$	28
H	4	50	90	$2\frac{3}{8}$
I	25	$3\frac{3}{4}$	43	$22\frac{1}{2}$
J	$\frac{1}{3}$	$\frac{1}{8}$	$\frac{1}{4}$	$4\frac{3}{4}$

15% were not completed

$$15\% = \frac{15}{100} = .15$$

15% no se completaron

Examples	Ejemplos	100	20	40	60	180	80
Not Completed	No Completados	15	3	6	9	27	12
Completed	Completados	85	17	34	51	153	68
		A	B	C	D	E	F

20% discount

$$20\% = \frac{20}{100} = \frac{2}{10} = .20 = .2 = \frac{1}{5}$$

20% de descuento

Regular Price	Precio Regular	\$ 5	\$ 1.50	\$ 7.50	\$ 9.00	\$ 30
Discount	Descuento	\$ 1	\$.30	\$ 1.50	\$ 1.80	\$ 6
Sale Price	Precio de Venta	\$ 4	\$ 1.20	\$ 6.00	\$ 7.20	\$ 24
		A	B	C	D	C

We won 70% of our games

$$70\% = \frac{70}{100} = \frac{7}{10} = .70 = .7$$

Ganamos 70% de nuestros juegos

Games played	Número de juegos	10	50	100	60	30	120	150
Games won	Los juegos ganados	7	35	70	42	21	84	105
Games lost	Los juegos perdidos	3	15	30	18	9	36	45
		A	B	C	D	C	F	G

Dog food
75% beef

$$75\% = \frac{75}{100} = .75 = \frac{3}{4}$$

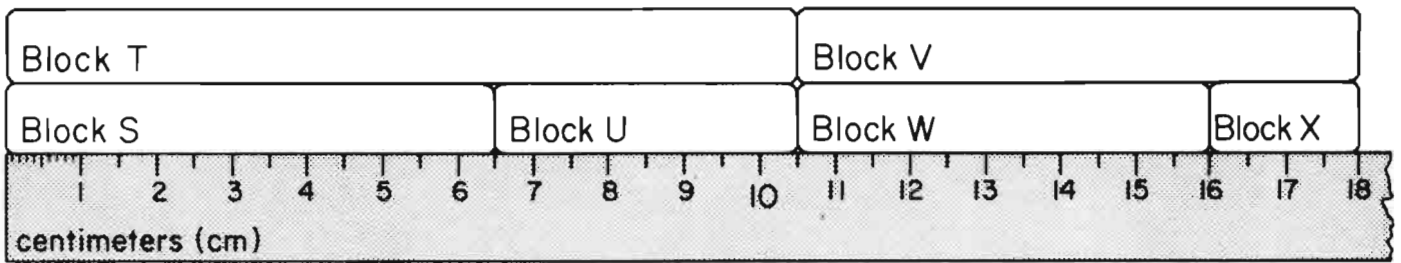
Carne para perros
75% Carne de res

in pounds:

en libras

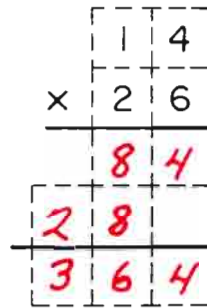
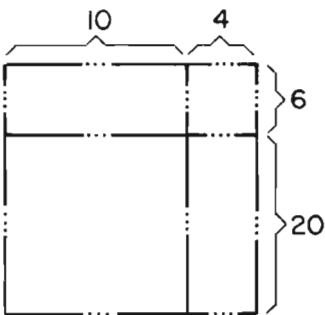
Total	Total	4	100	40	44	84
Beef	Res	3	75	30	33	63
Other	Otra	1	25	10	11	21
		A	B	C	A	C

	A	B	C	D
E	1	1.50	9.00	153
F	85	36	6.00	80
G	11	1.20	34	150
H	4	15	40	7.20
I	44	25	30	60
J	3	17	84	18

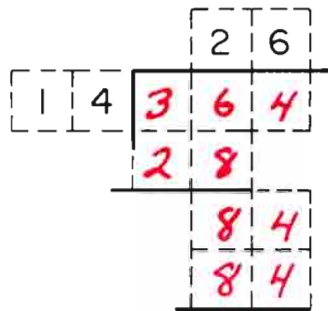
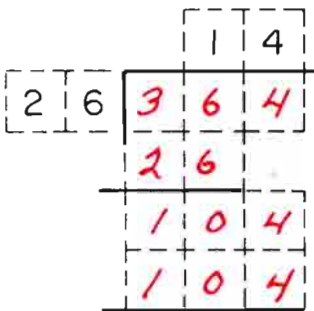


How do you feel?
¿Cómo se siente?

U	4 cm	W	5.5 cm	S + U	10.5 cm
W + X	7.5 cm	T + V	18 cm	U + W + X	11.5 cm



12	41	23	57	69
12	41	23	57	69
12	41	23	57	69
+ 12	+ 41	+ 23	+ 57	+ 69
48	164	92	228	276



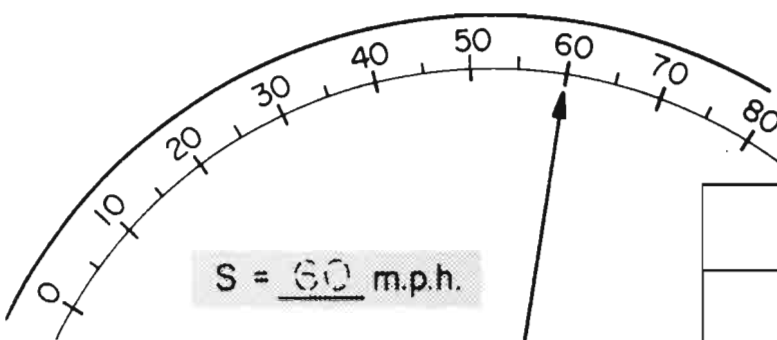
$$4 \times 800 = \underline{3,200} \quad 60 \times 50 = \underline{3,000}$$

$$(8 \times 8) - (9 \times 6) = 10$$

$$\frac{2}{3} = \frac{4}{6} \quad \frac{1}{8} = \frac{4}{32} \quad \frac{1}{4} = \frac{5}{20}$$

$$\frac{5}{8} + \frac{1}{4} = \frac{5}{8} + \frac{2}{8} = \frac{7}{8}$$

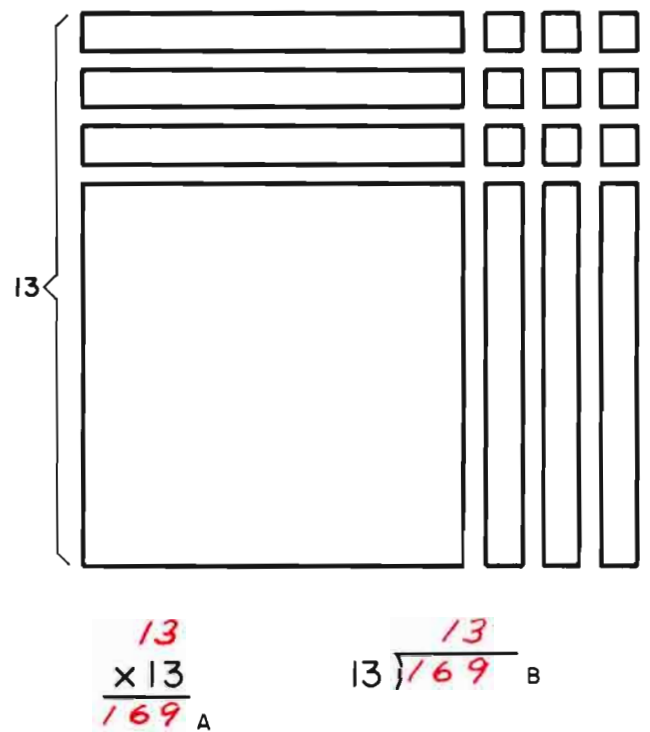
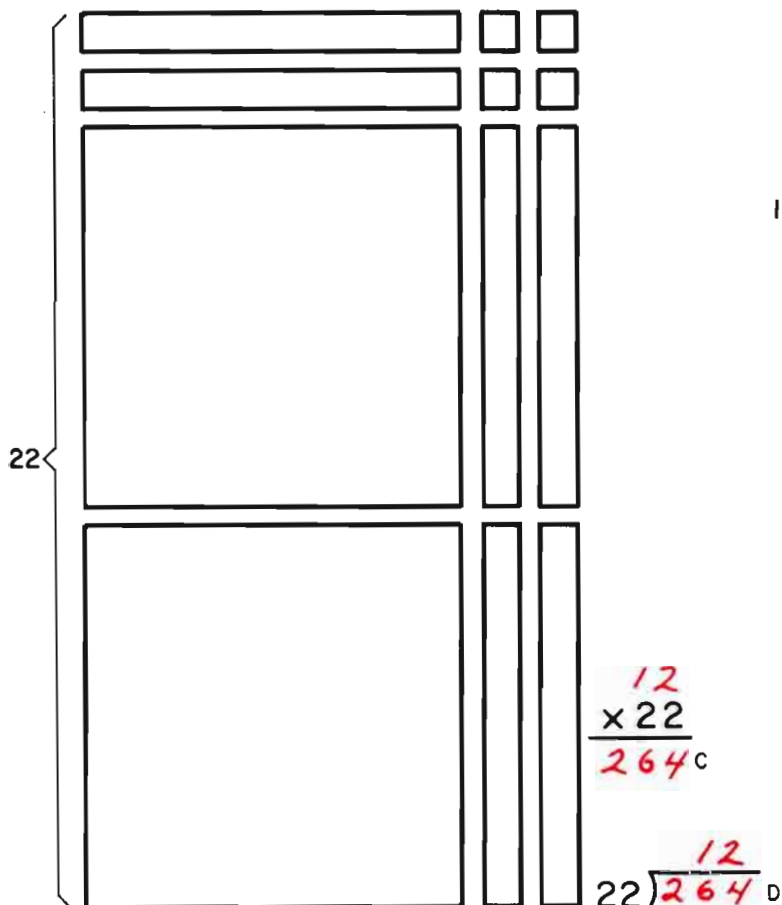
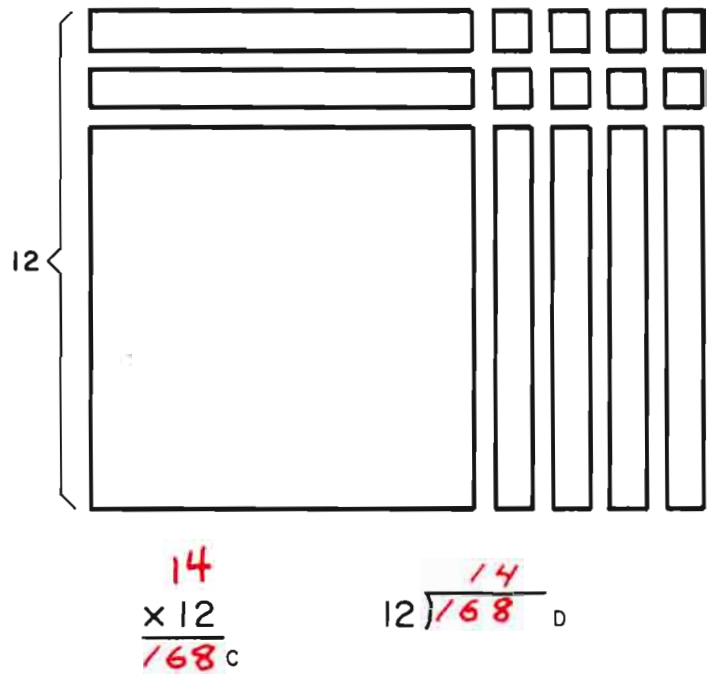
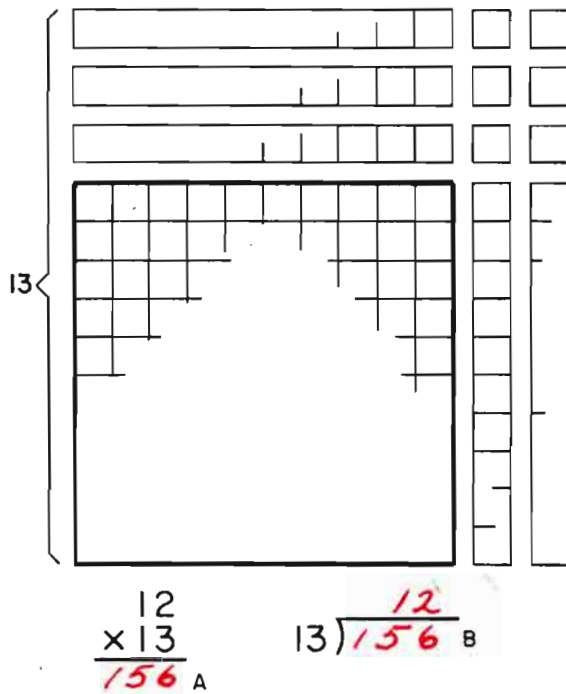
$$\frac{5}{6} - \frac{1}{3} = \frac{5}{6} - \frac{2}{6} = \frac{3}{6} = \frac{1}{2}$$



$\frac{3}{4} \times S$	105 m.p.h.	S - 55	5 m.p.h.
$\frac{1}{3} \times 45$ miles	60 miles	$S - (\frac{1}{3} \times S)$	40 m.p.h.
		$(2 \times S) + (\frac{1}{2} \times S)$	150 m.p.h.
		S - 18	42 m.p.h.

What Can You see?

¿Qué Puede Usted Ver?



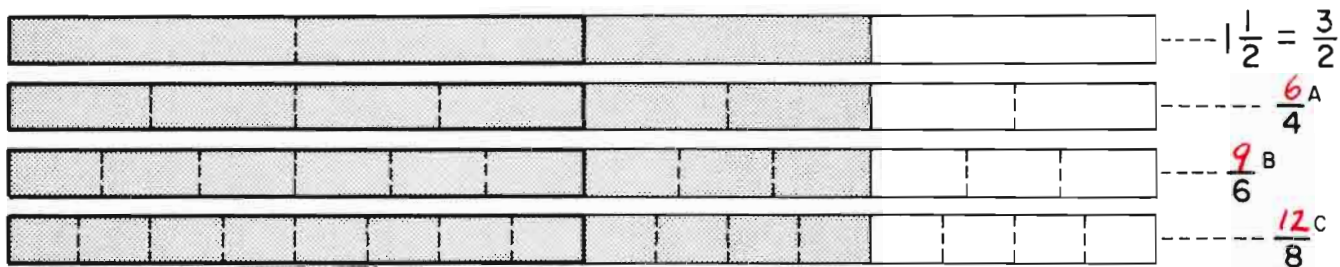
A	B	C	D
172	156	264	152
169	172	168	264
156	169	152	168

Can you see the patterns?

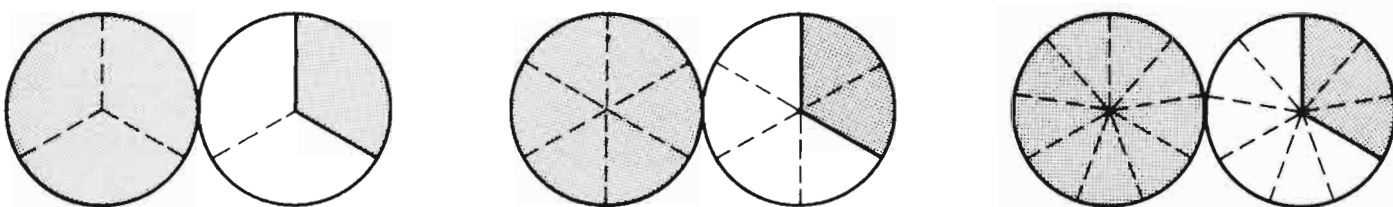
Can you extend them?

¿Puede usted ver las muestras?

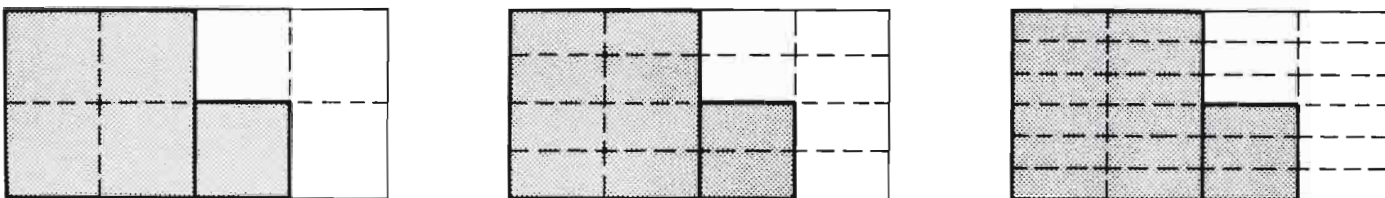
¿Puede usted extenderlas?



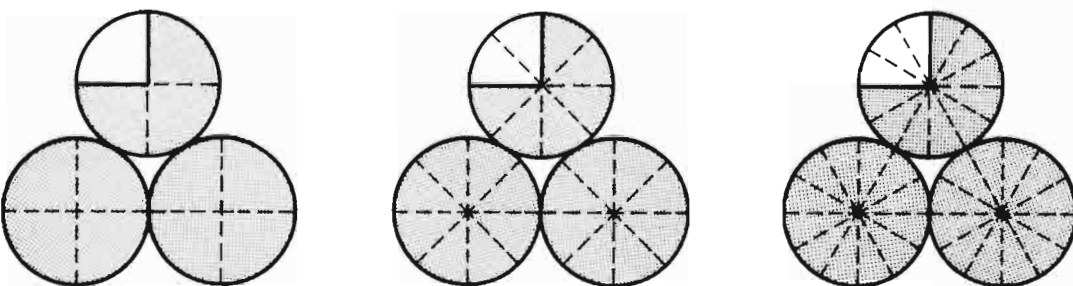
$$\frac{1}{2} = \frac{3}{2} = \frac{6}{4} = \frac{9}{6} = \frac{12}{8} = \frac{15}{10} = \frac{18}{12} = \frac{30}{20} = \frac{90}{60} = \frac{150}{100}$$



$$\frac{1}{3} = \frac{4}{3} = \frac{8}{6} = \frac{12}{9} = \frac{16}{12} = \frac{20}{15} = \frac{28}{21} = \frac{40}{30} = \frac{80}{60} = \frac{120}{90}$$



$$\frac{1}{4} = \frac{5}{4} = \frac{10}{8} = \frac{15}{12} = \frac{20}{16} = \frac{25}{20} = \frac{50}{40} = \frac{75}{60} = \frac{100}{80} = \frac{125}{100}$$



$$2\frac{3}{4} = \frac{11}{4} = \frac{22}{8} = \frac{33}{12} = \frac{55}{20} = \frac{110}{40} = \frac{275}{100}$$

	A	B	C	D
E	29	20	18	75
F	28	9	125	30
G	6	40	90	15
H	80	150	12	55
I	120	8	275	16

Fact Families

Familias de Cuentas

$\begin{array}{r} 7 \\ \times 6 \\ \hline 42 \end{array}$ A	$\begin{array}{r} 4 \\ \times 8 \\ \hline 32 \end{array}$ B	$9 \overline{)72}$ C	$5 \overline{)45}$ D
--	--	-------------------------	-------------------------

$6 \overline{)42}$	$8 \overline{)32}$	$8 \overline{)72}$
--------------------	--------------------	--------------------

$8 \times 9 = 72$ $42 \div 7 = 6$

$5 \times 9 = 45$ $32 \div 4 = 8$

$\begin{array}{r} 8 \\ \times 9 \\ \hline 72 \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline 45 \end{array}$	$\begin{array}{r} 6 \\ \times 7 \\ \hline 42 \end{array}$	$\begin{array}{r} 8 \\ \times 4 \\ \hline 32 \end{array}$
---	---	---	---

$6 \times 7 = 42$ $32 \div 8 = 4$

$9 \overline{)90}$	$9 \overline{)360}$	$9 \overline{)720}$
--------------------	---------------------	---------------------

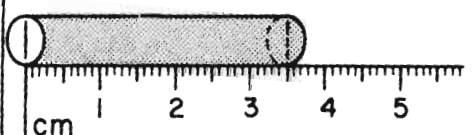
$\begin{array}{r} 8 \\ \times 8 \\ \hline 64 \end{array}$ H	$\begin{array}{r} 16 \\ \times 8 \\ \hline 128 \end{array}$ I	$\begin{array}{r} 32 \\ \times 8 \\ \hline 256 \end{array}$ J	$\begin{array}{r} 64 \\ \times 8 \\ \hline 512 \end{array}$ K
--	--	--	--

$7 \times 60 = 420$ D $70 \times 60 = 4,200$ E

$14 \times 60 = 840$ F $700 \times 6 = 4,200$ I

$5 \overline{)90}$ D	$5 \overline{)445}$ E	$5 \overline{)440}$ F
----------------------	-----------------------	-----------------------

$5 \overline{)225}$ I	$5 \overline{)890}$ J	$5 \overline{)220}$ K
-----------------------	-----------------------	-----------------------



1 centimeter (cm) =
10 millimeters (mm) =
.1 of a decimeter (D)

L = 3.5 cm

L	2 × L
B 35 D	A 70 mm
3 × L	85 cm
C 10.5 cm	8.5 D

Pencils..... 4¢	50¢
Erasers..... 3¢	C 3 P, 2 E, 2 N
Notebooks... 16¢	23¢
	A 1 P, 1 E, 1 N
Lápices..... 4¢	27¢
Borradores... 3¢	B 2 P, 1 E, 1 N
Cuadernos... 16¢	37¢
	C 3 P, 3 E, 1 N

	A	B	C	D	E
F	0,1,1	40	10	840	88
G	70	32	1,2,2	420	80
H	1,2,1	2,1,1	10½	90	64
I	42	128	1,3,3	45	4200
J	3,5	.7	3,2,2	256	178
K	1,2,3	512	8	44	89
L	1,1,1	.35	10.5	9	4600

Use only numbers from this list

Use solamente números de esta lista

3 4 5 6 7 8 or 9

A $(4 \times 6) - (3 \times 7) = 3$

A $(4 \times 7) - (3 \times 8) = 4$

B $(3 \times 9) - (6 \times 4) = 3$

B $(5 \times 5) - (3 \times 7) = 4$

C $(4 \times 7) - (5 \times 5) = 3$

C $(7 \times 7) - (5 \times 9) = 4$

D $(5 \times 9) - (6 \times 7) = 3$

D $(3 \times 8) - (4 \times 5) = 4$

E $(7 \times 5) - (4 \times 8) = 3$

E $(8 \times 5) - (4 \times 9) = 4$

Fence Arithmetic

16's

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

17's

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

Aritmética Usando Cercas

18's

2	1	8	4	5
7	9	9	9	10
11	4	2	3	3
1	5	7	4	1
2	4	6	5	4

Loop Arithmetic

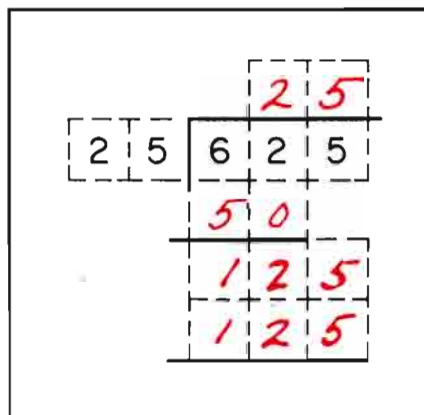
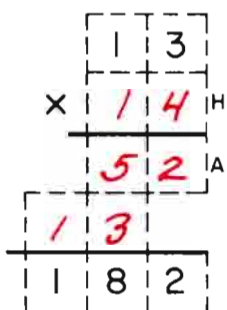
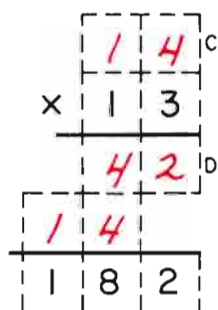
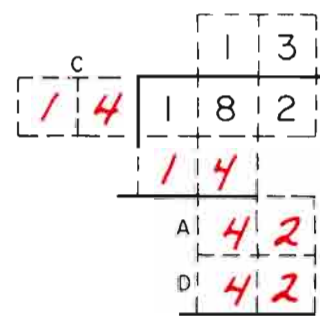
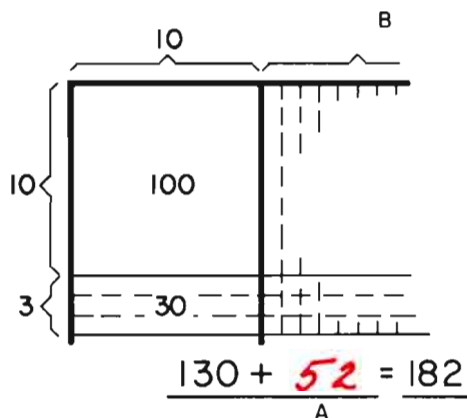
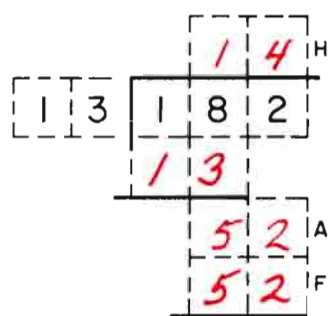
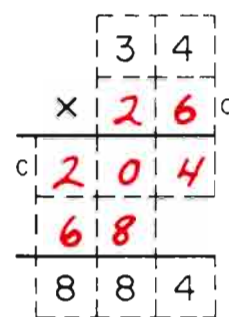
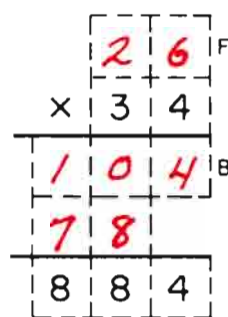
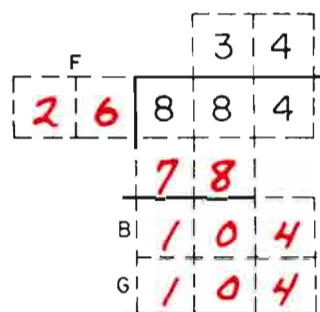
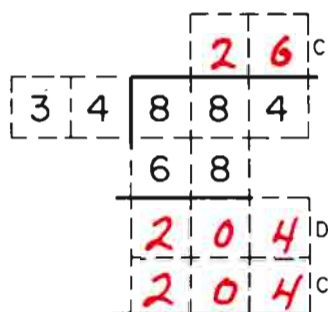
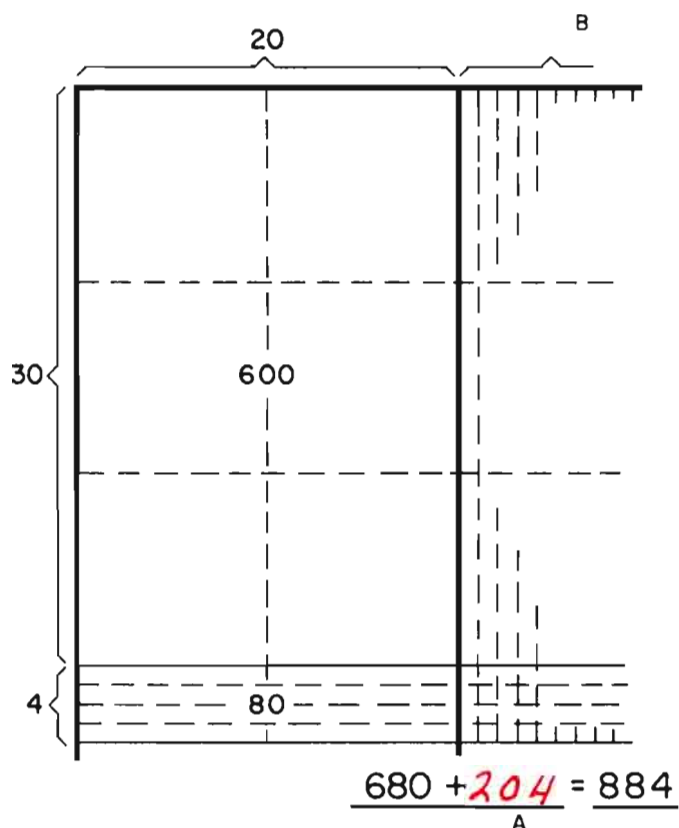
1	1
3	2
3	4
9	9
9	9
9	9
16	22

Aritmética de Lazo

2	1	2
3	2	3
4	4	4
9	8	8
9	8	8
9	8	8
29	21	30

$4 \times 70 =$	280	A
$5 \times 60 =$	300	B
$9 \times 40 =$	360	C
$80 \times 50 =$	4,000	D
$70 \times 60 =$	4,200	E
$2 \times 75 =$	150	A
$4 \times 25 =$	100	B
$20 \times 750 =$	15,000	C
$80 \times 25 =$	2,000	D
$80 \times 90 =$	7,200	E

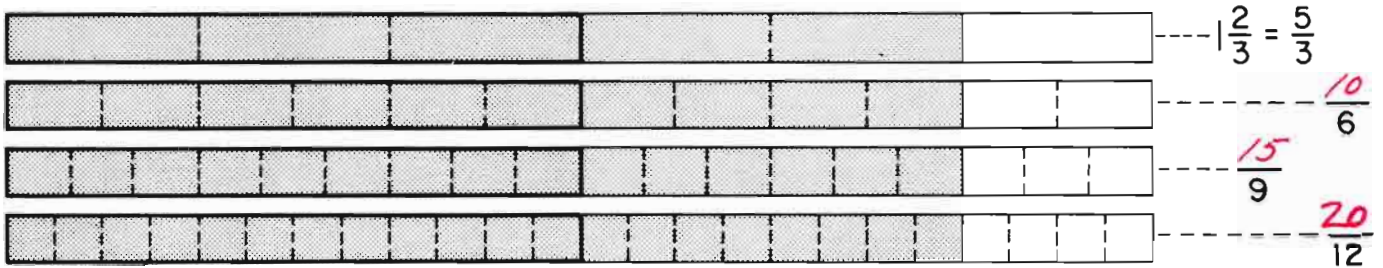
A	B	C	D	E
280	3,6	360	4,000	7,200
1,3,3,9	100	4,5	5,6	2,4,8,8,8
4,3	5,3	2,9,9,9	3,4	4,200
7,8	300	7,5	2,000	7,4
150	4,9,9	15,000	1,4,8,8	8,4



	A	B	C
D	42	10	204
E	49	6	72
F	52	208	26
G	81	104	94
H	204	4	14

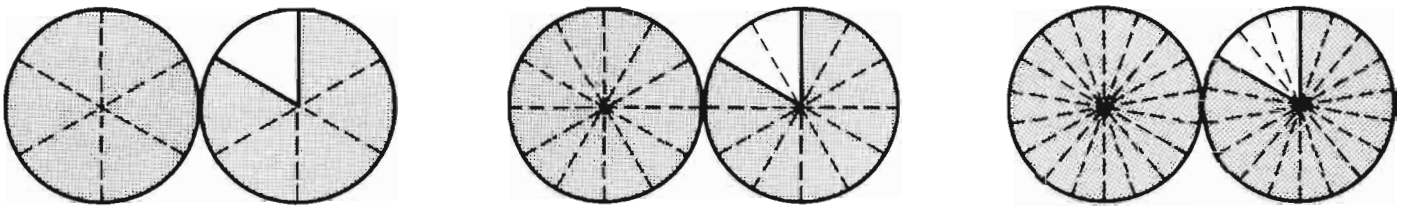
Can you see the patterns?
Can you extend them?

¿Puede Usted Ver las Muestras?
¿Puede Usted Extenderlas?



$$1 \frac{2}{3} = \frac{5}{3} = \frac{10}{6} = \frac{15}{9} = \frac{20}{12} = \frac{25}{15} = \frac{30}{18} = \frac{35}{21} = \frac{50}{30} = \frac{100}{60}$$

A B C D E



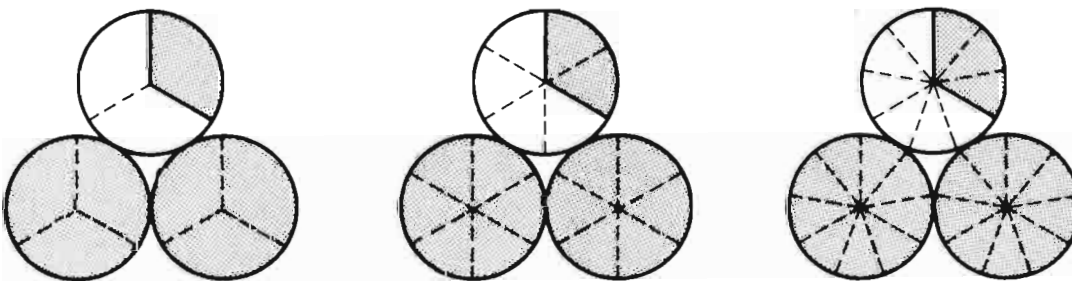
$$1 \frac{5}{6} = \frac{11}{6} = \frac{22}{12} = \frac{33}{18} = \frac{44}{24} = \frac{55}{30} = \frac{66}{36} = \frac{77}{42} = \frac{88}{48} = \frac{99}{54}$$

D H B I E I



$$1 \frac{3}{5} = \frac{8}{5} = \frac{16}{10} = \frac{24}{15} = \frac{32}{20} = \frac{40}{25} = \frac{64}{40} = \frac{96}{60} = \frac{128}{80} = \frac{160}{100}$$

A B C D F



$$2 \frac{1}{3} = \frac{7}{3} = \frac{14}{6} = \frac{21}{9} = \frac{28}{12} = \frac{35}{15} = \frac{42}{18}$$

G H F I

	A	B	C	D
E	5	100	88	64
F	128	10	32	35
G	8	16	7	20
H	14	33	15	22
I	99	42	55	11

1 Beanstick Raft (R) = 10 Ten-sticks (S) = 100 Beans (B)

1 Balsa de Palo para Frijoles (R) = 10 Palos de Diez (S) =
100 Frijoles (B)

	Rafts	10-Sticks	Beans
	.5	5 ^K	50 ^J
+	1 ^A	10 ^I	100 ^L
	1.5 ^A	15 ^C	150 ^C

	R	S	B
	5 ^A	50 ^B	500
-	1.5 ^H	15 ^C	150
	3.5 ^D	35 ^E	350 ^F

	R	S	B
	50	500 ^H	5,000 ^G
	$\times \frac{1}{10}$ or .1	$\times \frac{1}{10}$ or .1	$\times \frac{1}{10}$ or .1
	5 ^A	50 ^B	500 ^C

	R	S	B
	2.5 ^D	25	250 ^F
	$\times \frac{1}{5}$ or .2	$\times \frac{1}{5}$ or .2	$\times \frac{1}{5}$ or .2
	.50 ^H	5.0 ^A	50 ^B

	R	S	B
	1.3	13	130
+	.7	7	70
	2.0 ^J	20 ^K	200 ^L

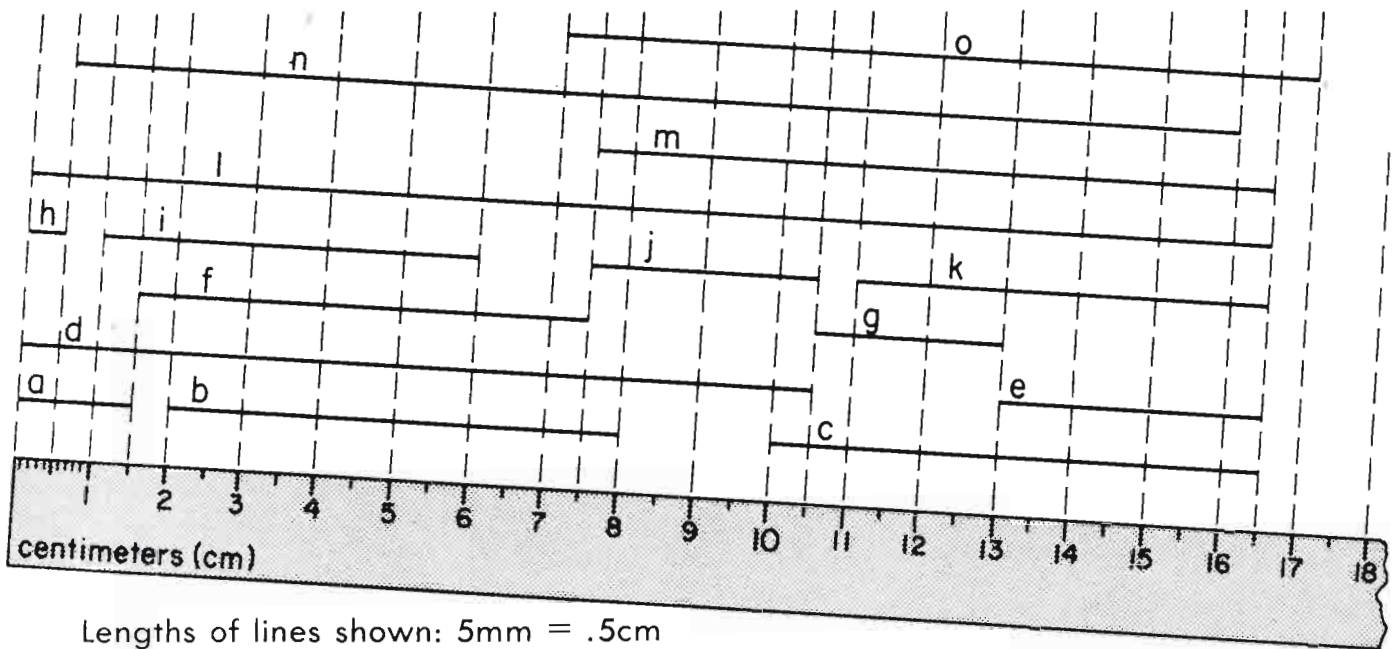
	R	S	B
	.85 ^A	8.5	85 ^F
+	.15 ^B	1.5	15 ^C
	1.00 ^G	10.0 ^I	100 ^L

	R	S	B
	1 ^A	10 ^B	100
	$\times \frac{1}{2}$ or .5	$\times \frac{1}{2}$ or .5	$\times \frac{1}{2}$ or .5
	.5 ^L	5 ^K	50 ^J

	R	S	B
	2	20	200
	$\times \frac{1}{2}$ or .5	$\times \frac{1}{2}$ or .5	$\times \frac{1}{2}$ or .5
	3 ^A	30 ^B	300 ^C

	R	S	B
	3.00 ^A	30 ^B	300
-	.25 ^G	2.5 ^D	25
	2.75 ^D	27.5 ^E	275 ^F

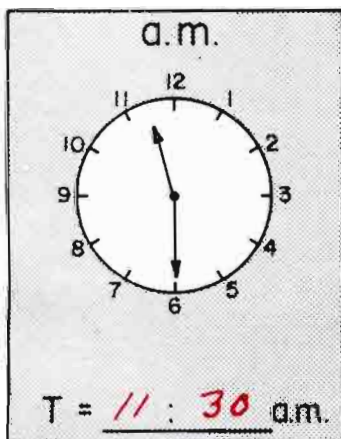
	A	B	C	D	E	F
G	7	5000	.25	1.00	.1	17
H	1.5	.15	500	2.75	.50	350
I	3	10	15	3.5	12	275
J	.85	50	300	2	27.5	250
K	5	20	9	2.5	35	85
L	1	30	150	100	.5	200



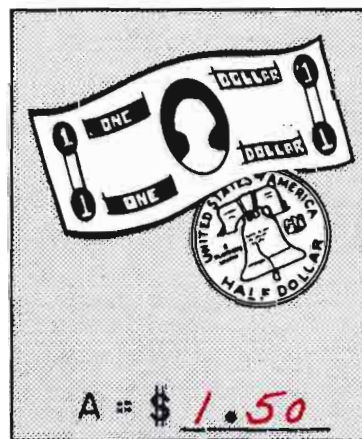
Lengths of lines shown: 5mm = .5cm

Los largos de las líneas mostradas: 5mm = .5cm

a. <u>1.5</u> cm A	d. <u>10.5</u> cm D	g. <u>2.5</u> cm G	j. <u>3</u> cm J	m. <u>9</u> cm C
b. <u>6</u> cm B	e. <u>3.5</u> cm E	h. <u>.5</u> cm H	k. <u>5.5</u> cm A	n. <u>15.5</u> cm D
c. <u>6.5</u> cm C	f. <u>6</u> cm F	i. <u>5</u> cm I	l. <u>16.5</u> cm B	o. <u>10</u> cm E

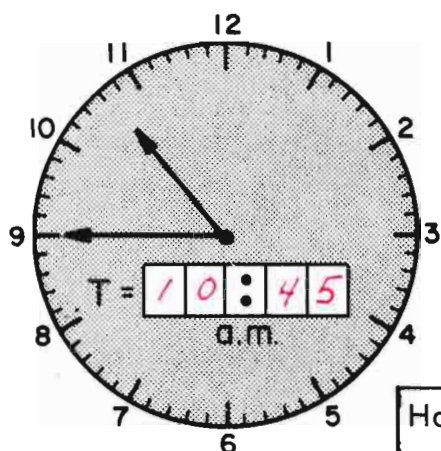


T + 45 min.	T + 90 min.
<u>12:15 P.M.</u>	<u>1:00 P.M.</u>
T - 45 min.	T - 90 min.
<u>10:45 A.M.</u>	<u>10:00 A.M.</u>
T - 100 min.	T + 6½ hours
<u>9:50 A.M.</u>	<u>6:00 P.M.</u>
T - 6½ hours	
<u>5:00 A.M.</u>	



2 × A	$\frac{1}{10} \times A$
\$ <u>3.00</u>	\$ <u>.15</u>
$\frac{1}{2} \times A$	10 × A
\$ <u>.75</u>	\$ <u>15.00</u>
	$\frac{1}{3} \times A$
	\$ <u>.50</u>

	A	B	C	D
E	5:00 a.m.	10	6:00 p.m.	3.5
F	1.5	16.5	.15	6
G	11:30 a.m.	6	2.5	.50
H	9:50 a.m.	.5	9	10.5
I	5	12:15 p.m.	100 p.m.	15.5
J	5.5	3	6.5	15



How many minutes in 2 hours?
¿Cuántos minutos hay en 12 horas?

120 min.

2 hours after time shown.

2 horas después de la hora indicada.

12:45 p.m.

$T + 2\frac{1}{2}$ hrs.

1:15 p.m.

How many minutes since mid-night?

¿Cuántos minutos han pasado desde la medianoche?

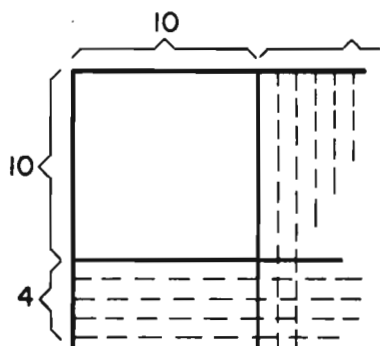
645 min.

Time Shown

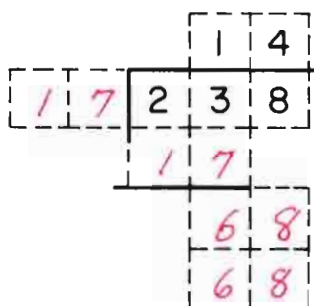
10:45

$T + 11$ hrs.

9:45 p.m.



$$14 \times 17 = 238$$

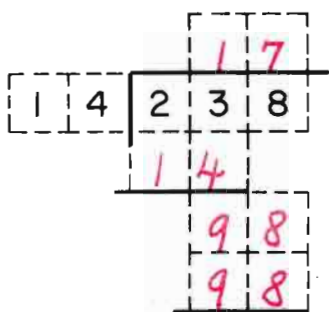


$$(7 \times 1) - (1 \times 6) = 1$$

$$(8 \times 8) - (9 \times 7) = 1$$

$$60 \times 90 = 5,400 \quad 200 \times 50 = 10,000$$

$$30 \times 800 = 24,000 \quad 100 \times 100 = 10,000$$



$$1\frac{2}{3} = \frac{5}{3}$$

$$2\frac{1}{3} = \frac{14}{6}$$

$$\frac{9}{4} = 2\frac{1}{4}$$

$$1\frac{11}{6} = 2\frac{5}{6}$$

$$\frac{2}{3} + \frac{1}{2} = \frac{4}{6} + \frac{3}{6} = \frac{7}{6} = 1\frac{1}{6}$$

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

How do you feel?

¿Cómo se siente?

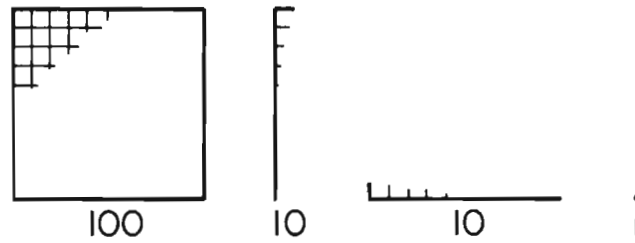
150 (1¢)	15 (10¢)
1.70 (\$ 1)	17 (10¢)
35 (1¢)	3.5 (10¢)
789 (1¢)	7.89 (\$ 1)

\$ 1	10¢	1¢
15	= 150	= 1500
1	= 10	= 100
.1	= 1	= 10
.01	= .1	= 1
1.8	= 18	= 180
.5	= 5	= 50
.07	= .7	= 7

125 (10¢)	12.5 (\$ 1)
.7 × (\$ 1)	7 (10¢)
1.3 × (\$ 1)	130 (1¢)
4.5 × (10¢)	.45 (\$ 1)

What Can You See?

¿Qué Puede Usted Ver?



$$\begin{array}{r} 10 \\ \times 10 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 11 \\ \times 10 \\ \hline 110 \end{array} \text{A}$$

$$\begin{array}{r} 12 \\ \times 10 \\ \hline 120 \end{array} \text{B}$$

$$\begin{array}{r} 11 \\ \times 11 \\ \hline 121 \end{array} \text{C}$$

$$\begin{array}{r} 12 \\ \times 11 \\ \hline 132 \end{array} \text{D}$$

$$\begin{array}{r} 13 \\ \times 11 \\ \hline 143 \end{array} \text{E}$$

$$\begin{array}{r} 12 \\ \times 12 \\ \hline 144 \end{array} \text{A}$$

$$\begin{array}{r} 14 \\ \times 12 \\ \hline 168 \end{array} \text{B}$$

$$\begin{array}{r} 12 \\ \times 13 \\ \hline 156 \end{array} \text{C}$$

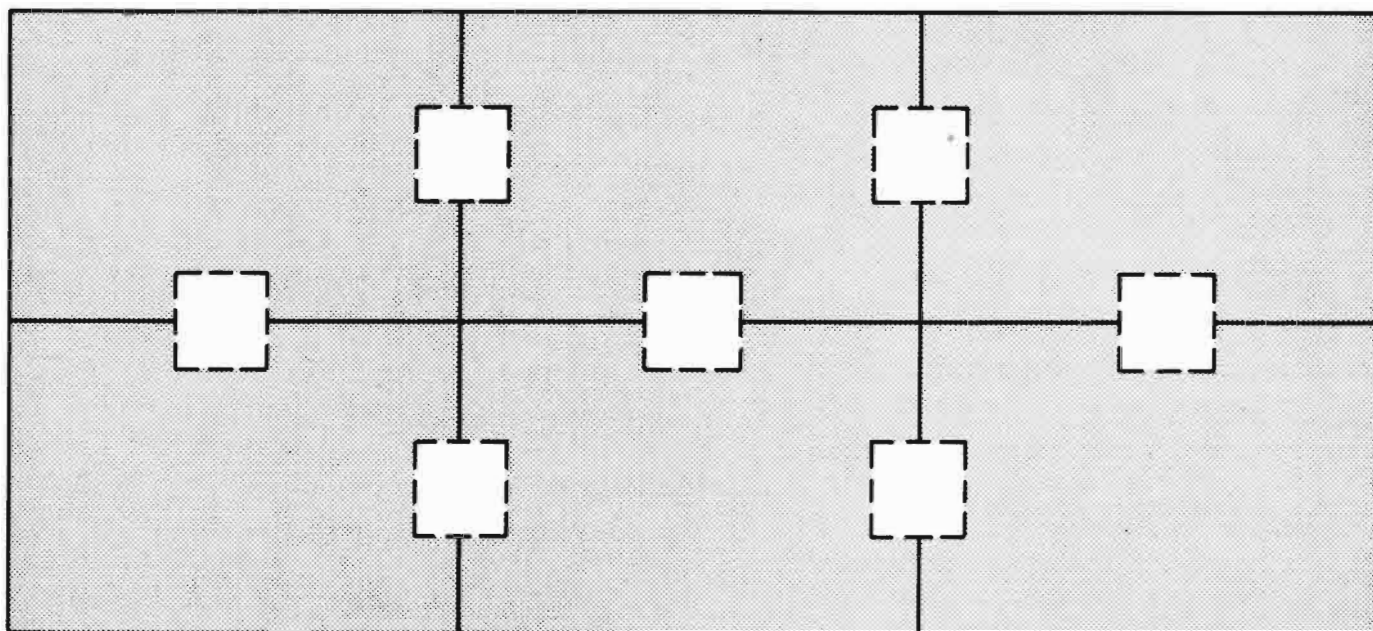
$$\begin{array}{r} 13 \\ \times 13 \\ \hline 169 \end{array} \text{D}$$

$$\begin{array}{r} 15 \\ \times 12 \\ \hline 180 \end{array} \text{E}$$

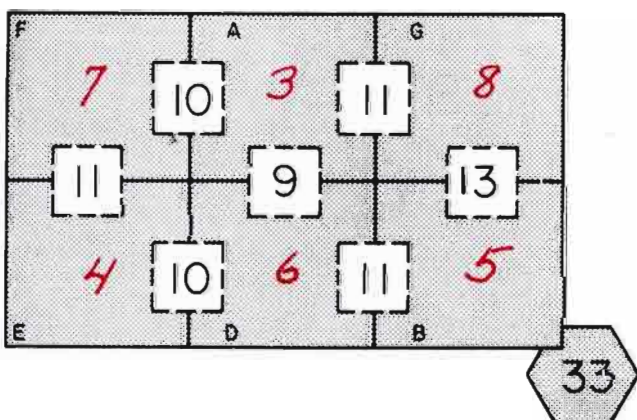
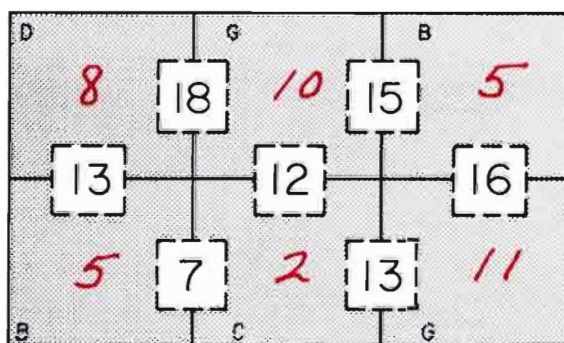
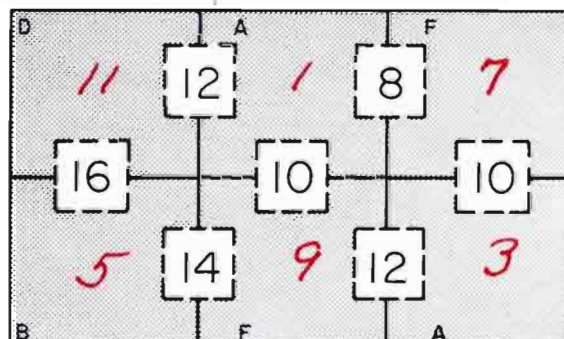
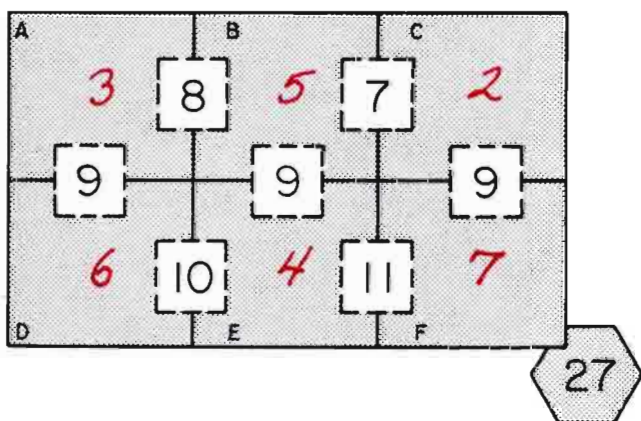
A	144	110
B	120	168
C	156	121
D	169	132
E	143	180

Six-way Puzzles

Rompecabezas de Seis Maneras



The children may want to try making 4-way and 6-way puzzles for each other. They'll find that making them is much easier than figuring them out!



A	B	C	D	E	F	G
3	7	4	11	5	6	8
5	6	2	8	4	7	11
1	5	3	6	7	9	10

Fact Families

Familias de Cuentas

$\begin{array}{r} 7 \\ 7 \overline{)49} \end{array}$ A	$\begin{array}{r} 6 \\ 6 \overline{)36} \end{array}$ B	$\begin{array}{r} 9 \\ 9 \overline{)81} \end{array}$ C	$\begin{array}{r} 8 \\ 8 \overline{)64} \end{array}$ D
---	---	---	---

$\begin{array}{r} 7 \\ 7 \overline{)49} \end{array}$	$\begin{array}{r} 9 \\ 9 \overline{)81} \end{array}$
--	--

$\begin{array}{r} 8 \\ 8 \overline{)64} \end{array}$	$\begin{array}{r} 7 \\ 7 \overline{)49} \end{array}$
--	--

$36 \div 6 = 6$	$7 \times 7 = 49$
$81 \div 9 = 9$	$8 \times 8 = 64$

$\begin{array}{r} 9 \\ \times 9 \\ \hline 81 \end{array}$	$\begin{array}{r} 8 \\ \times 8 \\ \hline 64 \end{array}$	$\begin{array}{r} 7 \\ \times 7 \\ \hline 49 \end{array}$	$\begin{array}{r} 9 \\ \times 9 \\ \hline 81 \end{array}$
---	---	---	---

$6 \times 6 = 36$	$9 \times 9 = 81$
-------------------	-------------------

$\begin{array}{r} 90 \\ 9 \overline{)810} \end{array}$ E	$\begin{array}{r} 8 \\ 9 \overline{)72} \end{array}$ F	$\begin{array}{r} 98 \\ 9 \overline{)882} \end{array}$ G
---	---	---

$\begin{array}{r} 10 \\ \times 7 \\ \hline 70 \end{array}$ H	$\begin{array}{r} 12 \\ \times 7 \\ \hline 84 \end{array}$ I	$\begin{array}{r} 14 \\ \times 7 \\ \hline 98 \end{array}$ J	$\begin{array}{r} 16 \\ \times 7 \\ \hline 112 \end{array}$ K
---	---	---	--

$30 \div 6 = 5$ A	$300 \div 6 = 50$ B
$60 \div 6 = 10$ C	$150 \div 6 = 25$ D

$\begin{array}{r} 80 \\ 8 \overline{)640} \end{array}$ E	$\begin{array}{r} 6 \\ 8 \overline{)48} \end{array}$ F	$\begin{array}{r} 86 \\ 8 \overline{)688} \end{array}$ G
---	---	---

$\begin{array}{r} 40 \\ 8 \overline{)320} \end{array}$ H	$\begin{array}{r} 3 \\ 8 \overline{)24} \end{array}$ I	$\begin{array}{r} 43 \\ 8 \overline{)344} \end{array}$ J
---	---	---

5¢ and 8¢ stamps

Timbres de 5 y 8 centavos

$\frac{1}{3}$ OFF

\$3.21
\$2.14
75¢
50¢ A
\$21.45
\$14.30 B
\$4.41
\$2.94 C

$21¢$ A $1 \text{ } 5¢, 2 \text{ } 8¢$	$41¢$ B $5 \text{ } 5¢, 2 \text{ } 8¢$
$44¢$ C $4 \text{ } 5¢, 3 \text{ } 8¢$	$43¢$ A $7 \text{ } 5¢, 1 \text{ } 8¢$
$29¢$ B $1 \text{ } 5¢, 3 \text{ } 8¢$	

	A	B	C	D	E
F	1,2	6	2,4	20	8
G	7	98	4,3	86	80
H	7,1	50	9	70	40
I	3	6	84	25	50
J	3,1	14.30	6	43	98
K	5	5,2	20	8	112
L	50	1,3	2.94	18	90

Use only numbers from this list

Use solamente números de esta lista

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

A (4×9) - (7×5) = 1

A (3×5) - (3×3) = 6

B (5×4) - (6×3) = 2

B (3×9) - (5×4) = 7

C (3×9) - (3×8) = 3

C (9×4) - (4×7) = 8

D (5×5) - (3×7) = 4

D (3×7) - (4×3) = 9

E (5×6) - (5×5) = 5

E (2×7) - (1×4) = 10

Fence Arithmetic

Aritmética Usando Cercas.

15's

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

16's

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

17's

1	2	1	10	7
2	2	2	2	2
11	6	1	5	3
2	1	8	1	4
6	2	9	7	5

Loop Arithmetic

Aritmética de Lazo

$50 \times 20 = 1,000$ A

$5 \times 800 = 4,000$ B

$9 \times 700 = 6,300$ C

$80 \times 80 = 6,400$ D

$20 \times 50 = 1,000$ E

$800 \times 500 = 400,000$ A

$100 \times 17 = 1,700$ B

$10 \times 1700 = 17,000$ C

$80 \times 60 = 4,800$ D

$15 \times 20 = 300$ E

A $\begin{array}{r} 3 \\ 3 \\ 3 \\ 8 \\ 8 \\ 8 \end{array}$ 14

B $\begin{array}{r} 3 \\ 3 \\ 3 \\ 8 \\ 8 \\ 8 \end{array}$ 19

C $\begin{array}{r} 3 \\ 3 \\ 3 \\ 8 \\ 8 \\ 8 \end{array}$ 17

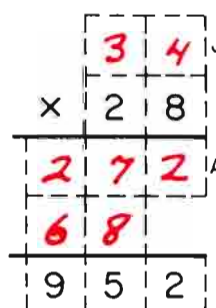
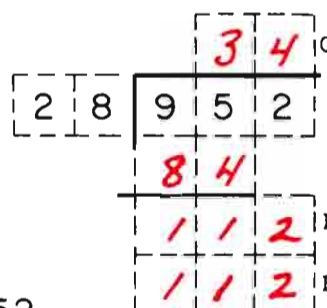
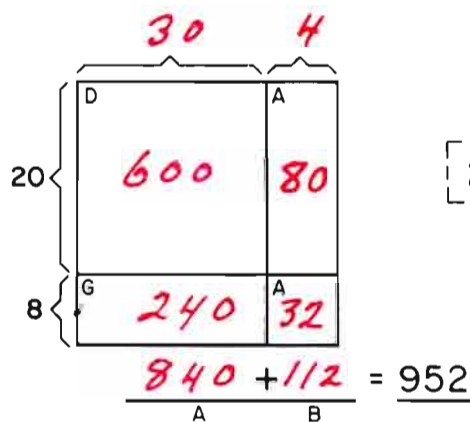
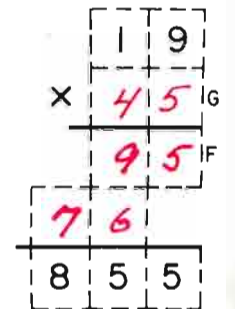
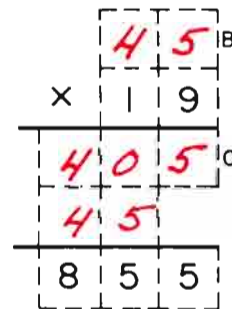
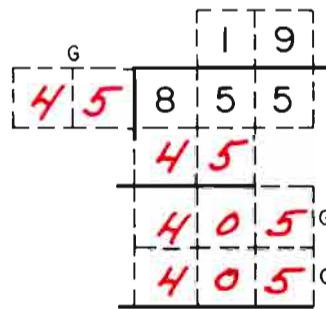
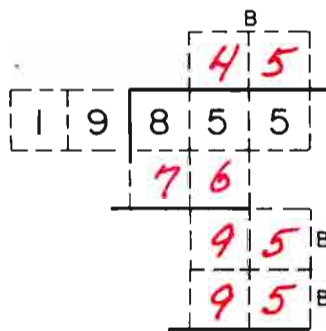
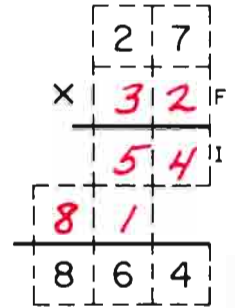
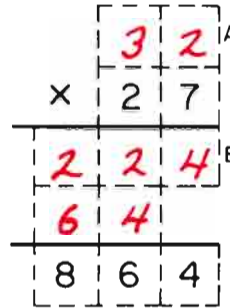
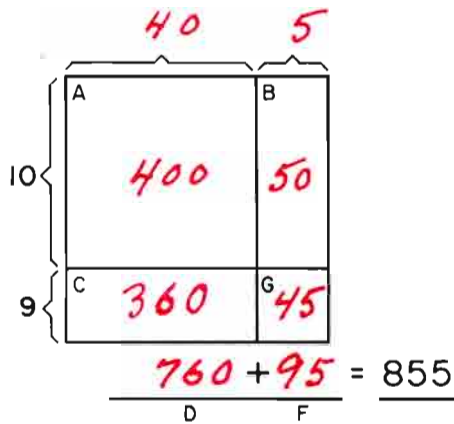
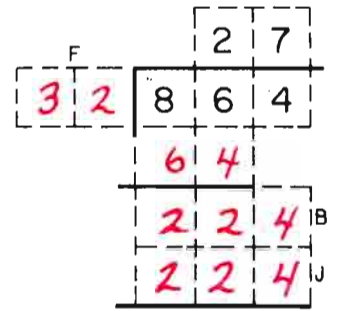
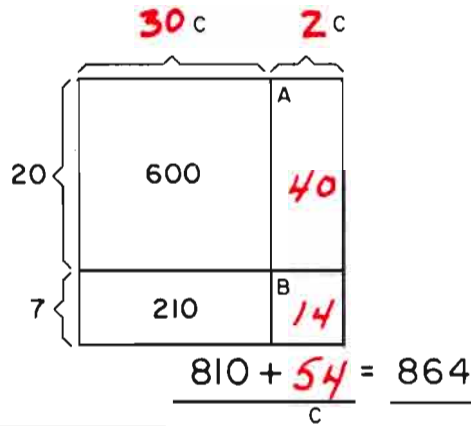
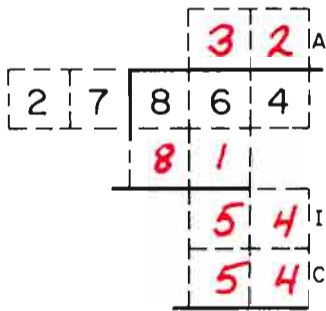
D $\begin{array}{r} 3 \\ 3 \\ 3 \\ 8 \\ 8 \\ 8 \end{array}$ 22

E $\begin{array}{r} 3 \\ 3 \\ 3 \\ 8 \\ 8 \\ 8 \end{array}$ 27

A	B	C	D	E
400,000	1,700	6,300	6,400	5,5
4,7	3,8,8	9,4	4,800	300
3,3,8	5,6	3,3,3,8	5,3	2,1
1000	3,5	17,000	3,4	3,8,8,8
3,3	4,000	3,3	3,3,8,8	1,000

Fact Families

Familias de Cuentas



	A	B	C
D	400	600	760
E	840	14	360
F	32	95	2
G	240	45	405
H	40	50	30
I	272	112	54
J	80	224	34

"Simplest Form" or "Lowest Terms" "La Forma más Sencilla" o "En Términos Reducidos"

$$\boxed{\frac{1}{10}} = \frac{2^A}{20} = \frac{3^B}{30} = \frac{5^C}{50} = \frac{10^D}{100}$$

$$\boxed{\frac{3}{5}} = \frac{6^I}{10} = \frac{30^F}{50} = \frac{60^F}{100}$$

$$\boxed{\frac{1}{5}} = \frac{6}{5} = \frac{12}{10} = \frac{120}{100}$$

$$\boxed{\frac{1}{5}} = \frac{2^K}{10} = \frac{3^L}{15} = \frac{4^M}{20} = \frac{20^E}{100}$$

$$\boxed{\frac{7}{10}} = \frac{14}{20} = \frac{35^C}{50} = \frac{70^D}{100}$$

$$\boxed{\frac{3}{10}} = \frac{13}{10} = \frac{26}{20} = \frac{130}{100}$$

$$\boxed{\frac{3}{10}} = \frac{6}{20^K} = \frac{9^L}{30} = \frac{12^M}{40} = \frac{30^F}{100}$$

$$\boxed{\frac{4}{5}} = \frac{8}{10} = \frac{40^E}{50} = \frac{80^H}{100}$$

$$\boxed{\frac{12}{5}} = \frac{7}{5} = \frac{14}{10} = \frac{140}{100}$$

$$\boxed{\frac{2}{5}} = \frac{4^G}{10} = \frac{6^I}{15} = \frac{20^E}{50} = \frac{40^L}{100}$$

$$\boxed{\frac{9}{10}} = \frac{18}{20} = \frac{45^F}{50} = \frac{90}{100}$$

$$\boxed{\frac{1}{2}} = \frac{3}{2} = \frac{15}{10} = \frac{150}{100}$$

$$\boxed{\frac{1}{2}} = \frac{2^A}{4} = \frac{5^J}{10} = \frac{25^C}{50} = \frac{50^J}{100}$$

$$\boxed{\frac{1}{10}} = \frac{11}{10} = \frac{55^A}{50} = \frac{110^B}{100}$$

$$\boxed{\frac{13}{5}} = \frac{8}{5} = \frac{16}{10} = \frac{160^M}{100}$$

$\frac{3}{10} = \frac{3}{10}$ $+ \frac{1}{5} = \frac{2}{10}$ $\boxed{\frac{1}{2}^D} = \frac{5^E}{10}$	$\frac{1}{2} = \frac{5}{10}$ $- \frac{1}{5} = \frac{2}{10}$ $\boxed{\frac{3}{10}^H} = \frac{3^J}{10}$
$\frac{4}{5} = \frac{8}{10}$ $+ \frac{7}{10} = \frac{7}{10}$ $\boxed{1\frac{1}{2}^I} = \frac{15}{10}$	$\frac{9}{10} = \frac{9}{10}$ $- \frac{1}{2} = \frac{5}{10}$ $\boxed{\frac{2}{5}^M} = \frac{4}{10}$

$$\frac{1}{5} + \frac{3}{10} = \frac{2}{10} + \frac{3}{10} = \frac{5}{10} = \boxed{\frac{1}{2}^J}$$

$$\frac{1}{2} - \frac{1}{5} = \frac{5}{10} - \frac{2}{10} = \boxed{\frac{3}{10}^K}$$

$$\frac{1}{5} - \frac{1}{10} = \frac{2}{10} - \frac{1}{10} = \boxed{\frac{1}{10}^L}$$

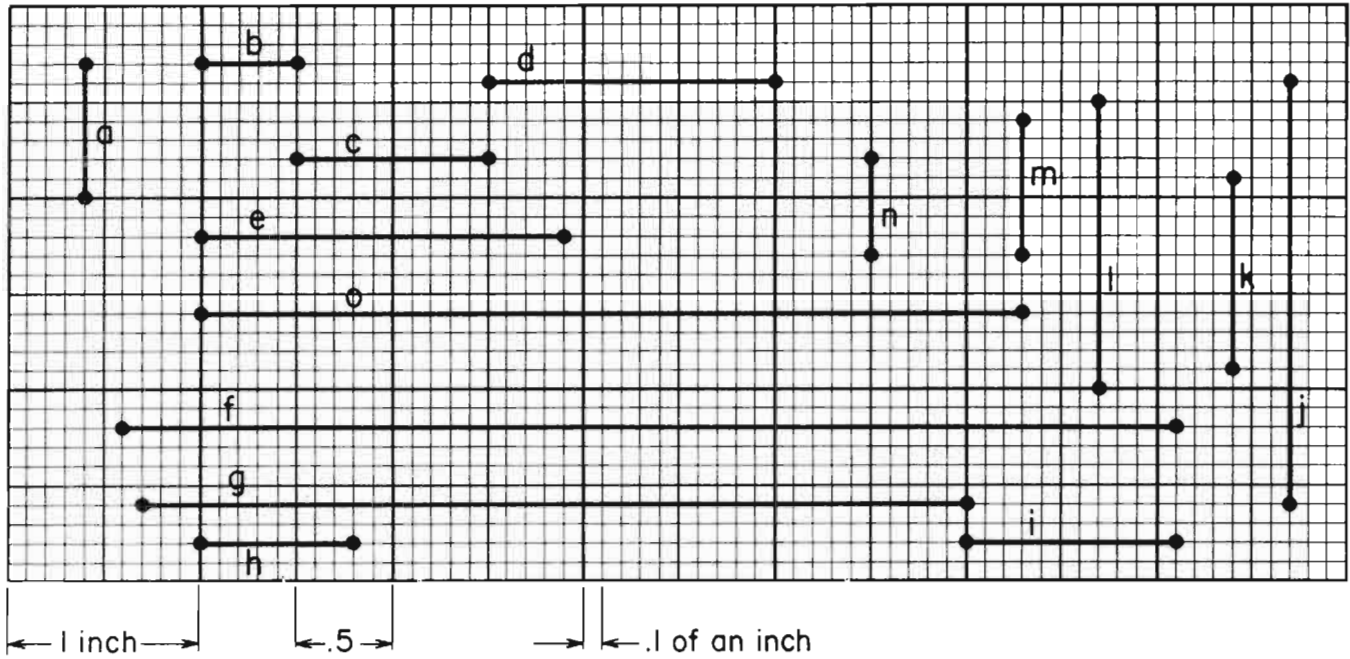
$$\frac{3}{2} + \frac{1}{10} = \frac{15}{10} + \frac{1}{10} = \frac{16}{10} = \boxed{1\frac{3}{5}^M}$$

$$\frac{7}{10} + \frac{3}{5} = \frac{7}{10} + \frac{6}{10} = \frac{13}{10} = \boxed{1\frac{3}{10}^A}$$

	A	B	C	D	E	F	G	H	I
J	$1\frac{3}{10}$	$\frac{7}{10}$	5	$\frac{1}{2}$	$\frac{5}{10}$	30	$\frac{4}{5}$	$\frac{3}{10}$	50
K	2	110	25	70	20	45	$\frac{3}{10}$	80	6
L	55	$\frac{9}{10}$	$\frac{1}{10}$	3	40	$1\frac{2}{5}$	40	9	$1\frac{1}{2}$
M	12	30	35	10	$1\frac{3}{5}$	60	4	$\frac{2}{5}$	160

Lengths of lines shown

Los largos de las líneas mostradas.



- a. .7 in. _A d. 1.5 in. _D g. 4.3 in. _C j. 2.2 in. _B m. .7 in. _A
 b. .5 in. _B e. 1.9 in. _A h. .8 in. _D k. 1 in. _C n. .5 in. _B
 c. 1 in. _C f. 5.5 in. _B i. 1.1 in. _A l. 1.5 in. _D o. 4.3 in. _C

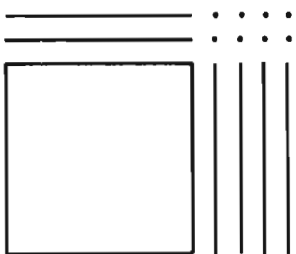
0 0 3 5 2 8		$\frac{1}{2} \times D$	
D = 352.8 miles		A	<u>176.4</u> mi.
		$2 \times D$	
		B	<u>705.6</u> mi.
$D + 1.2$		$D + 70$	
C	<u>354.0</u> mi.	B	<u>422.8</u> mi.
$D + 100.2$		$D + 28.7$	
D	<u>453.0</u> mi.	C	<u>381.5</u> mi.
$D + 9\frac{1}{2}$		$D + 1000$	
A	<u>362.3</u> mi.	D	<u>1,352.8</u> mi.

		$\frac{1}{2} L$	
L = 2,000 lbs.		A	<u>1,000</u> lbs.
		$\frac{1}{4} L$	
		B	<u>500</u> lbs.
$10 \times L$			
C	<u>20,000</u> lbs.		
$1\frac{1}{2} \times L$			
D	<u>3,000</u> lbs.		
$2\frac{1}{4} \times L$			
D	<u>4,500</u> lbs.		

	A	B	C	D
E	.7	500	17	1352.8
F	176.4	5.5	354.0	.8
G	362.3	.5	381.5	453.0
H	1.9	705.6	4.3	3,000
I	1000	2.2	20,000	1.5
J	1.1	422.8	1	4,500

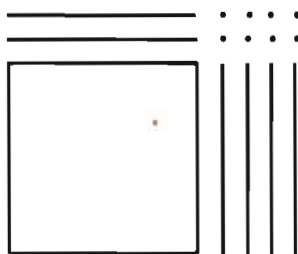
What Can You See?

¿Qué Puede Usted Ver?



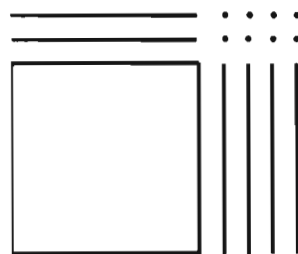
$$\begin{array}{r} 14 \\ \times 12 \\ \hline 168 \end{array}$$

168 _A



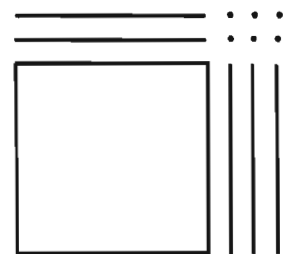
$$\begin{array}{r} 14 \\ \times 13 \\ \hline 182 \end{array}$$

182 _B



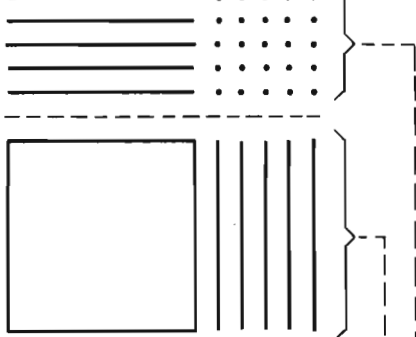
$$\begin{array}{r} 14 \\ \times 14 \\ \hline 196 \end{array}$$

196 _C



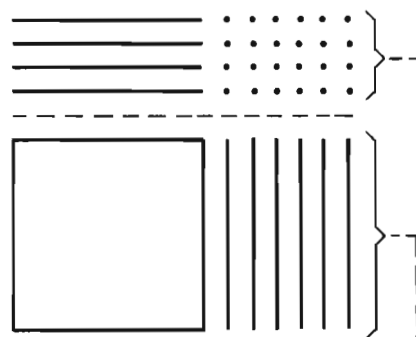
$$\begin{array}{r} 15 \\ \times 15 \\ \hline 225 \end{array}$$

225 _A



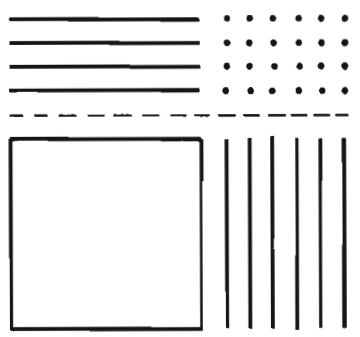
$$\begin{array}{r} 15 \\ \times 15 \\ \hline 75 \\ 150 \\ \hline 225 \end{array}$$

225 Total _B



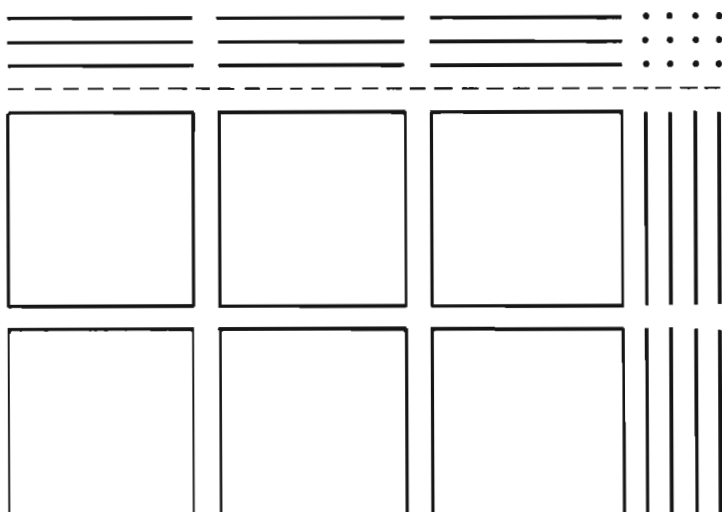
$$\begin{array}{r} 16 \\ \times 14 \\ \hline 64 \\ 160 \\ \hline 224 \end{array}$$

224 Total _C



$$\begin{array}{r} 16 \\ \times 15 \\ \hline 80 \\ 160 \\ \hline 240 \end{array}$$

240 Total _A



$$\begin{array}{r} 34 \\ \times 23 \\ \hline 102 \\ 680 \\ \hline 782 \end{array}$$

782 _B

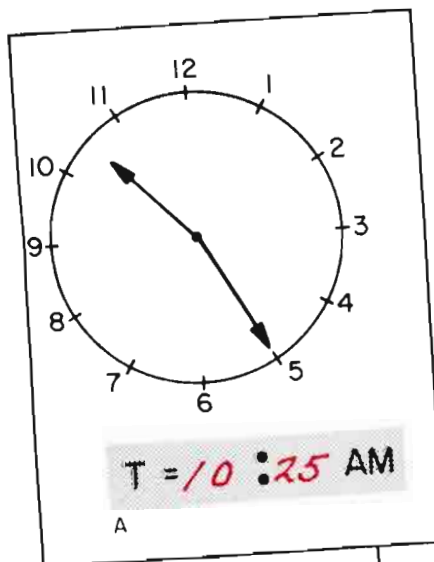
A	B	C
225	782	196
168	225	203
240	182	224

Fact Families

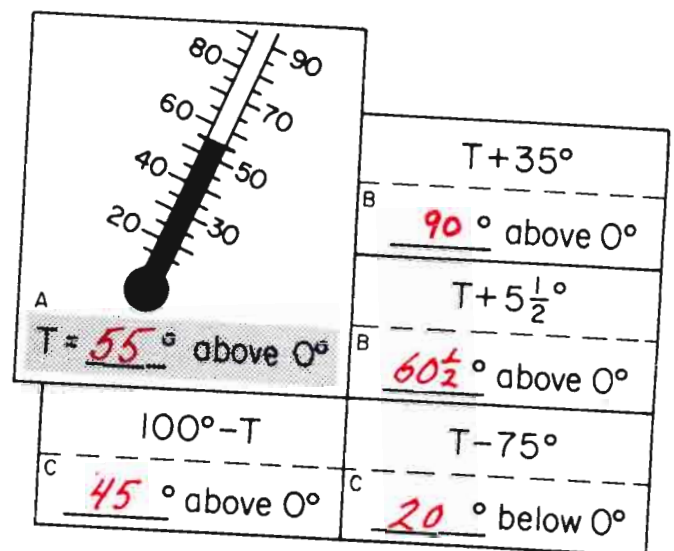
Familias de Cuentas

$\begin{array}{r} 8 \\ \times 6 \\ \hline 48 \end{array}$	$\begin{array}{r} 6 \\ \times 9 \\ \hline 54 \end{array}$	$\begin{array}{r} 8 \\ \times 7 \\ \hline 56 \end{array}$	$\begin{array}{r} 7 \\ \times 9 \\ \hline 63 \end{array}$
$8 \overline{)56}$	$7 \overline{)63}$	$9 \overline{)54}$	
$48 \div 8 = 6$	$8 \times 7 = 56$		
$63 \div 9 = 7$	$7 \times 9 = 63$		
$\begin{array}{r} 6 \\ \times 8 \\ \hline 48 \end{array}$	$\begin{array}{r} 9 \\ \times 6 \\ \hline 54 \end{array}$	$\begin{array}{r} 7 \\ \times 8 \\ \hline 56 \end{array}$	$\begin{array}{r} 9 \\ \times 7 \\ \hline 63 \end{array}$
$9 \times 7 = 63$	$56 \div 7 = 8$		

$8 \overline{)64} \text{ E}$	$8 \overline{)160} \text{ F}$	$8 \overline{)224} \text{ G}$
$\begin{array}{r} 9 \\ \times 9 \\ \hline 81 \end{array} \text{ H}$	$\begin{array}{r} 10 \\ \times 9 \\ \hline 90 \end{array} \text{ I}$	$\begin{array}{r} 12 \\ \times 9 \\ \hline 108 \end{array} \text{ J}$
$\begin{array}{r} 14 \\ \times 9 \\ \hline 126 \end{array} \text{ K}$		
$8 \times 8 = 64$	$6 \times 6 = 36$	
$9 \times 9 = 81$	$7 \times 7 = 49$	
$9 \overline{)72} \text{ D}$	$9 \overline{)270} \text{ E}$	$9 \overline{)342} \text{ F}$
$6 \overline{)42} \text{ H}$	$6 \overline{)300} \text{ J}$	$6 \overline{)342} \text{ K}$



T + 2½ hrs.	12 - T
12:55 p.m.	1 hr., 35 min.
T - 2½ hrs.	12 + T
7:55 a.m.	10 hrs., 25 min.



	A	B	C	D	E
F	18	9:15	2:45	160	342
G	8	60½	8:55	7	224
H	10:25	54	56	81	42
I	1,35	90	7:55	72	64
J	10:15	10:25	20	300	108
K	48	12:55	45	126	342
L	55	6	9	63	270

Fact Families

Familias de Cuentas

$\begin{array}{r} 9 \\ \times 8 \\ \hline 72 \end{array}$ A	$\begin{array}{r} 7 \\ \times 6 \\ \hline 42 \end{array}$ B	$\begin{array}{r} 9 \\ 4 \overline{)36} \end{array}$ C	$\begin{array}{r} 8 \\ 5 \overline{)40} \end{array}$ D
---	---	--	--

$\begin{array}{r} 7 \\ 6 \overline{)42} \end{array}$	$\begin{array}{r} 9 \\ 8 \overline{)72} \end{array}$	$\begin{array}{r} 8 \\ 9 \overline{)72} \end{array}$
--	--	--

$4 \times 9 = 36$	$5 \times 8 = 40$
$9 \times 4 = 36$	$8 \times 5 = 40$

$\begin{array}{r} 9 \\ \times 4 \\ \hline 36 \end{array}$	$\begin{array}{r} 8 \\ \times 5 \\ \hline 40 \end{array}$	$\begin{array}{r} 4 \\ \times 9 \\ \hline 36 \end{array}$	$\begin{array}{r} 5 \\ \times 8 \\ \hline 40 \end{array}$
---	---	---	---

$36 \div 9 = 4$	$40 \div 8 = 5$
-----------------	-----------------

$\begin{array}{r} 80 \\ 5 \overline{)400} \end{array}$ E	$\begin{array}{r} 5 \\ 5 \overline{)25} \end{array}$ F	$\begin{array}{r} 85 \\ 5 \overline{)425} \end{array}$ G
--	--	--

$\begin{array}{r} 10 \\ \times 8 \\ \hline 80 \end{array}$ H	$\begin{array}{r} 11 \\ \times 8 \\ \hline 88 \end{array}$ I	$\begin{array}{r} 12 \\ \times 8 \\ \hline 96 \end{array}$ J	$\begin{array}{r} 13 \\ \times 8 \\ \hline 104 \end{array}$ K
--	--	--	---

$4 \times 8 = 32$ F	$5 \times 7 = 35$ G
$4 \times 16 = 64$ H	$5 \times 14 = 70$ I

$\begin{array}{r} 50 \\ 6 \overline{)300} \end{array}$ J	$\begin{array}{r} 8 \\ 6 \overline{)48} \end{array}$ K	$\begin{array}{r} 58 \\ 6 \overline{)348} \end{array}$ L
--	--	--

$\begin{array}{r} 25 \\ 6 \overline{)150} \end{array}$ F	$\begin{array}{r} 4 \\ 6 \overline{)24} \end{array}$ H	$\begin{array}{r} 29 \\ 6 \overline{)174} \end{array}$ K
--	--	--

1 Kilogram = 1000 grams

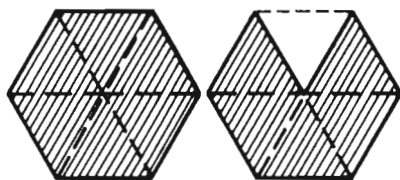
3K	
A	3,000 grams
.5K	2000 grams
B	500 grams
7.5K	500 grams
C	7,500 grams
	.5 K

1 Liter = 1000 milliliters

2.3L	
A	2,300 ml
2.5L	
B	2,500 ml
1100 ml	
C	1.1 L
750 ml	
C	.75 L

	A	B	C	D	E
F	17	5	37	25	32
G	35	500	85	8	80
H	3000	80	1.1	4	64
I	2300	.5	9	70	88
J	72	2500	7500	96	50
K	2	$\frac{1}{2}$	8	29	104
L	14	42	.75	58	98

An Idea . . . and a family of names.



$$1\frac{5}{6}^*$$

Simplest name

Some other members of the family.

$\frac{5}{6}^E$	$\frac{10}{12}^E$	$\frac{15}{18}^E$	$\frac{20}{24}^E$	$\frac{25}{30}^E$	$\frac{30}{36}^F$
$\frac{11}{6}^A$	$\frac{22}{12}^B$	$\frac{33}{18}^F$	$\frac{44}{24}^G$	$\frac{55}{30}^{HI}$	$\frac{66}{36}^I$

Some related families of names.

$1\frac{1}{2}^*$	$\frac{2}{4}^B$	$\frac{3}{6}^C$	$\frac{3}{2}^C$	$\frac{6}{4}^A$	$\frac{9}{6}^D$
$2\frac{5}{6}^*$	$\frac{11}{6}^A$	$\frac{17}{6}^B$	$2\frac{10}{12}^E$	$\frac{22}{12}^B$	$\frac{34}{12}^F$

Una Idea . . . y una familia de nombres.



$$2\frac{2}{3}^*$$

El nombre más sencillo

Otros miembros de la familia.

$\frac{8}{3}^C$	$\frac{16}{6}^A$	$\frac{24}{9}^D$	$\frac{32}{12}^G$	$\frac{40}{15}^H$	$\frac{48}{18}^I$
$2\frac{4}{6}^D$	$2\frac{6}{9}^A$	$2\frac{8}{12}^C$	$\frac{5}{3}^E$	$\frac{10}{6}^E$	$\frac{20}{12}^E$

Algunas familias de nombres que son "parientes".

$3\frac{1}{3}^*$	$2\frac{4}{3}^D$	$\frac{7}{3}^B$	$\frac{10}{3}^E$	$\frac{20}{6}^E$	$\frac{14}{6}^D$
$2\frac{1}{6}^*$	$\frac{7}{6}^B$	$\frac{13}{6}^C$	$\frac{26}{12}^G$	$\frac{39}{18}^H$	$\frac{52}{24}^I$

A general strategy in Addition.

$$\begin{array}{r} 1\frac{1}{2} = \frac{3^C}{2} = \frac{9^D}{6} \\ + 1\frac{1}{3} = \frac{4^D}{3} = \frac{8^C}{6} \\ \hline \boxed{2\frac{5}{6}}^* \leftarrow \frac{17^B}{6} \end{array}$$

$$\begin{array}{r} 2\frac{2}{3} = \frac{8^C}{3} = \frac{16^A}{6} \\ + 2\frac{1}{6} = \frac{13^C}{6} = \frac{13^C}{6} \\ \hline \boxed{4\frac{5}{6}}^* \leftarrow \frac{29^F}{6} \end{array}$$

$$\begin{array}{r} 2\frac{5}{6} = \frac{17^B}{6} = \frac{17^B}{6} \\ + 3\frac{1}{3} = \frac{10^E}{3} = \frac{20^E}{6} \\ \hline \boxed{6\frac{1}{6}}^* \leftarrow \frac{37^G}{6} \end{array}$$

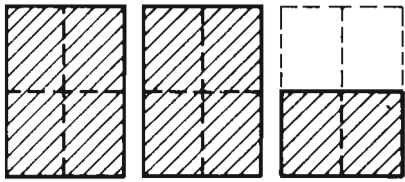
$$\begin{array}{r} 1\frac{5}{6} = \frac{11^A}{6} = \frac{11^A}{6} \\ + 1\frac{1}{2} = \frac{3^C}{2} = \frac{9^D}{6} \\ \hline \boxed{3\frac{1}{3}}^* \leftarrow \frac{20^E}{6} \end{array}$$

$$\begin{array}{r} 2\frac{5}{6} = \frac{17}{6} \\ + 2\frac{1}{6} = \frac{13}{6} \\ \hline \boxed{5}^* \leftarrow \frac{30^F}{6} \end{array}$$

Una estrategia general para Sumar

A	B	C	D	E	F	G	H	I
11	7	13	9	5	17	19	55	$3\frac{1}{3}$
1	22	18	14	20	33	32	39	48
16	17	3	54	10	29	44	$2\frac{5}{6}$	52
6	2	23	24	15	30	26	40	$4\frac{5}{6}$
21	12	8	4	25	34	37	$6\frac{1}{6}$	66

An Idea . . . and a family of names.



$$2 \frac{1}{2}^*$$

Simplest name

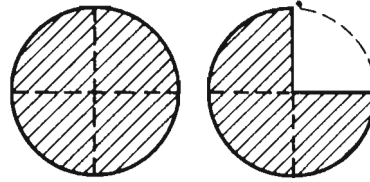
Some other members of the family.

$\frac{3}{2}$ ^A	$\frac{5}{2}$ ^B	$2 \frac{2}{4}$ ^C	$\frac{6}{4}$ ^D	$\frac{10}{4}$ ^E	$\frac{100}{40}$ ^F
$\frac{15}{6}$ ^A	$\frac{20}{8}$ ^E	$\frac{25}{10}$ ^F	$\frac{250}{100}$ ^G	$\frac{150}{100}$ ^I	$2 \frac{50}{100}$ ^H

Some related families of names.

$\frac{1}{2}$ [*]	$\frac{3}{2}$ ^A	$\frac{6}{4}$ ^D	$\frac{9}{6}$ ^D	$\frac{150}{100}$ ^I	150% ^I
$3 \frac{1}{2}$ [*]	$\frac{7}{2}$ ^B	$\frac{14}{4}$ ^C	$\frac{28}{8}$ ^D	$\frac{350}{100}$ ^J	350% ^J

Una Idea . . . y una familia de nombres.



$$1 \frac{3}{4}^*$$

El nombre más sencillo

Otros miembros de la familia.

$\frac{7}{4}$ ^B	$\frac{6}{8}$ ^D	$\frac{14}{8}$ ^C	$\frac{9}{12}$ ^D	$\frac{21}{12}$ ^E	$\frac{28}{16}$ ^F
$\frac{35}{20}$ ^G	$\frac{175}{100}$ ^G	$\frac{75}{100}$ ^H	1.75 ^I	175% ^I	$\frac{1750}{1000}$ ^I

Algunas familias de nombres que son "parientes".

$\frac{1}{4}$ [*]	$\frac{5}{4}$ ^B	$\frac{2}{8}$ ^C	$\frac{10}{8}$ ^E	$\frac{125}{100}$ ^J	125% ^J
$3 \frac{1}{4}$ [*]	$\frac{13}{4}$ ^A	$3 \frac{2}{8}$ ^C	$\frac{26}{8}$ ^E	$\frac{325}{100}$ ^J	325% ^J

A general strategy in Subtraction.

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

$$- \frac{3}{4} = \frac{7}{4} = \frac{7}{4}$$

$$\boxed{3 \frac{3}{4}}^* \leftarrow \frac{3}{4}^A$$

$$3 \frac{1}{2} = \frac{7}{2} = \frac{14}{4}$$

$$- \frac{1}{4} = \frac{5}{4} = \frac{5}{4}$$

$$\boxed{2 \frac{1}{4}}^* \leftarrow \frac{9}{4}^D$$

Una estrategia general para Restar.

$$3 \frac{3}{4} = \frac{15}{4} = \frac{15}{4}$$

$$- 2 \frac{1}{2} = \frac{5}{2} = \frac{10}{4}$$

$$\boxed{1 \frac{1}{4}}^* \leftarrow \frac{5}{4}^C$$

$$3 \frac{1}{4} = \frac{13}{4} = \frac{13}{4}$$

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

$$\boxed{1 \frac{3}{4}}^* \leftarrow \frac{7}{4}^B$$

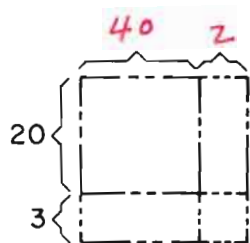
	A	B	C	D	E	F	G	H	I	J	K
L	13	8	2	28	21	20	175	110	140	150	$2 \frac{1}{4}$
M	3	7	17	15	20	100	250	25	75	350	$\frac{3}{4}$
N	15	13	14	6	26	28	100	75	150	325	$1 \frac{1}{4}$
O	9	5	4	9	10	25	35	50	1750	125	$1 \frac{3}{4}$

<i>Sale</i> – 10% off prices shown	Jackets Chaquetas \$ 6.00	Shirts Faldas \$ 8.00	Sweaters Suéteres \$ 5.50	Ties Corbatas \$ 1.40
---------------------------------------	---------------------------------	-----------------------------	---------------------------------	-----------------------------

On Your Own

Usted Solo

Jackets Chaquetas	2	1	0	0			1	1
Shirts Faldas	0	0	0	0		1		1
Sweaters Suéteres	0	0	3	0	1	1	3	1
Ties Corbatas	0	1	0	7	2			1
Total Sale Price	\$10.80	\$6.66	\$14.85	\$8.82	\$7.47	\$12.15	\$20.25	\$18.81



$$920 + 46 = 966$$

$$\begin{array}{r} 42 \\ \times 23 \\ \hline 126 \\ 84 \\ \hline 966 \end{array}$$

$$(6 \times 6) - (5 \times 7) = 1$$

$$(7 \times 9) - (7 \times 8) = 7$$

$$\frac{1}{2} - \frac{1}{5} = \frac{5}{10} - \frac{2}{10} = \frac{3}{10}$$

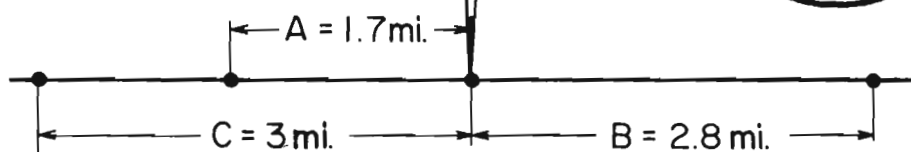
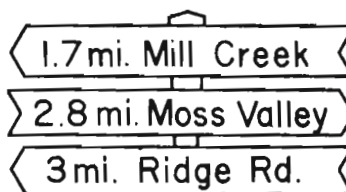
$$\frac{7}{10} + \frac{4}{5} = \frac{7}{10} + \frac{8}{10} = \frac{15}{10} = 1\frac{1}{2}$$

$$1\frac{1}{10} - \frac{3}{5} = \frac{11}{10} - \frac{6}{10} = \frac{5}{10} = \frac{1}{2}$$

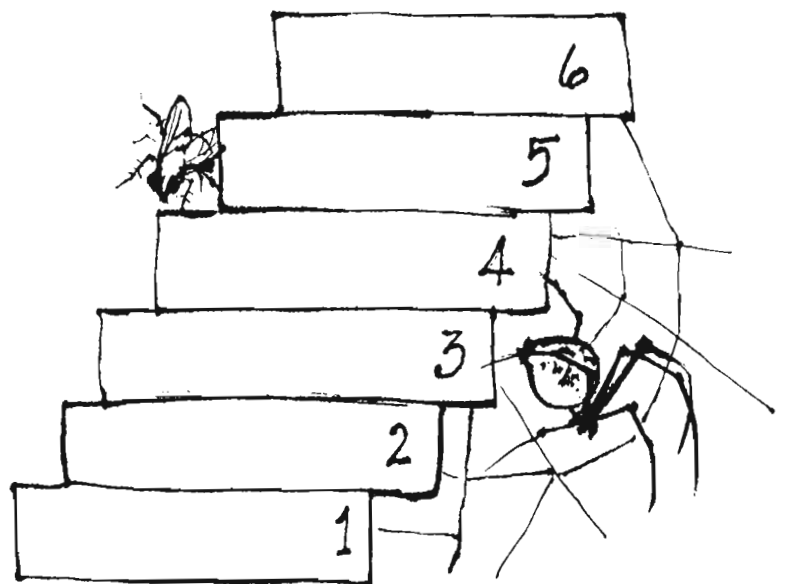
$$\begin{array}{r} 42 \\ 23 \\ \times 966 \\ \hline 92 \\ 46 \\ 46 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ 42 \\ \times 966 \\ \hline 84 \\ 126 \\ 126 \\ \hline \end{array}$$

$2 \times A$	3.4 mi.
$A + B$	4.5 mi.
$B + A + A$	6.2 mi.
$2 \times B$	5.6 mi.
$2(A + B)$	9.0 mi.



$B + C$	5.8 mi.	$C - A$	1.3 mi.
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