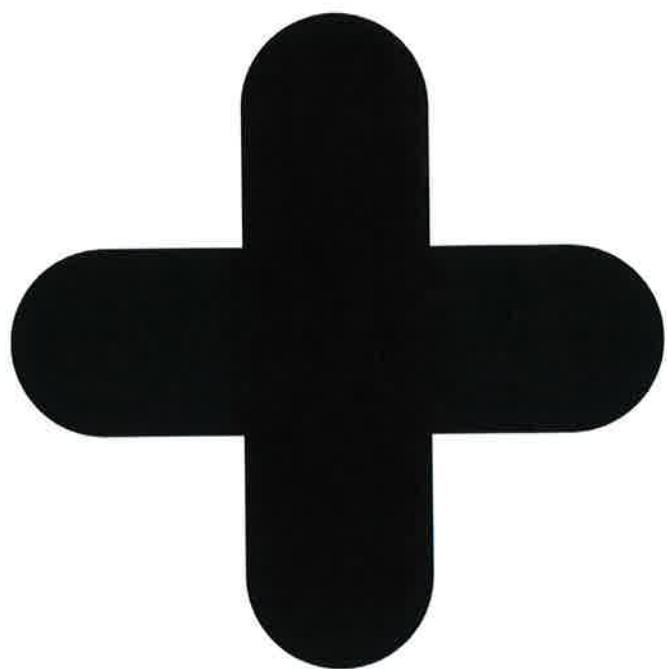




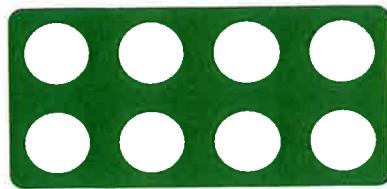
Parents guide to calculation strategies



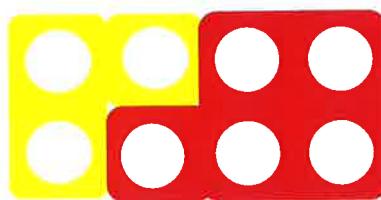
addition

1

$$5 + 3 =$$



=

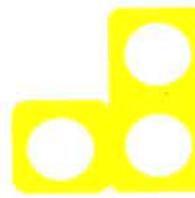


8

=

$$(5 + 3) =$$

=

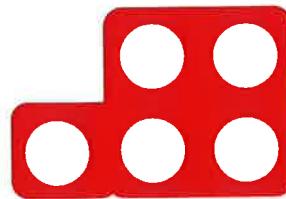


=

3

+

+



5

$$\begin{array}{r} 5 + 3 = 8 \\ 8 - 3 = 5 \end{array}$$

$$\begin{array}{r} 3 + 5 = 8 \\ 8 - 5 = 3 \end{array}$$

2

$$8 + 7 + 2 =$$
$$=$$

$$+$$

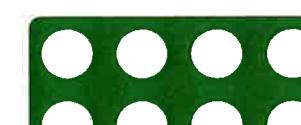
$$=$$

$$+$$

$$=$$

$$+$$

$$+$$

$$8 + 7 + 2 =$$
$$=$$

$$+$$

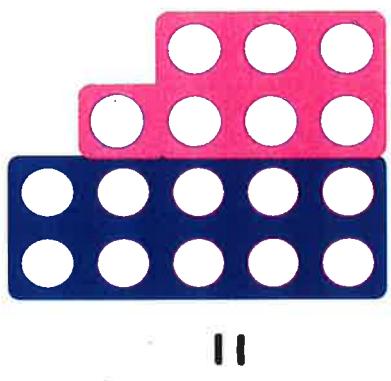
$$+$$

$$=$$

$$+$$

$$+$$

$$+$$

11

3

-1

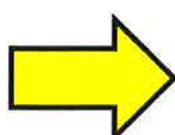
+1

$$28 + 35 =$$

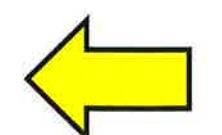
Start with the
biggest number

	1	C	O	I	U	M	N						
-21	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8
-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2
-1	0	1	2	3	4	5	6	7	8	9	10	11	12
9	10	11	12	13	14	15	16	17	18	19	20	21	22
19	20	21	22	23	24	25	26	27	28	29	30	31	32
29	30	31	32	33	34	35	36	37	38	39	40	41	42
39	40	41	42	43	44	45	46	47	48	49	50	51	52
49	50	51	52	53	54	55	56	57	58	59	60	61	62
59	60	61	62	63	64	65	66	67	68	69	70	71	72
69	70	71	72	73	74	75	76	77	78	79	80	81	82
79	80	81	82	83	84	85	86	87	88	89	90	91	92
89	90	91	92	93	94	95	96	97	98	99	100	101	102
99	100	101	102	103	104	105	106	107	108	109	110	111	112
109	110	111	112	113	114	115	116	117	118	119	120	121	122

+ 10



- 10



row →

4

$$28 + 35 = \begin{array}{l} 2 \\ 8 \end{array} + \begin{array}{l} 3 \\ 5 \end{array}$$



$$\begin{array}{l} + \\ 30 \end{array} + \begin{array}{l} 3 \\ 0 \end{array}$$

$$\begin{array}{l} 28 \\ + 28 \end{array} = \begin{array}{l} 2 \\ 8 \end{array}$$

$$= \begin{array}{l} 28 \\ + 30 \end{array}$$



$$\begin{array}{l} + \\ 30 \end{array} + \begin{array}{l} 3 \\ 0 \end{array}$$

+

$$\begin{array}{r} 28 \\ + 63 \\ \hline 63 \end{array}$$


$$28 + 35 = 63$$

$28 + 35 = 63$	$35 + 28 = 63$
$63 - 35 = 28$	$63 - 28 = 35$

$$28 + 35 =$$

$$\begin{array}{r}
 & & 5 \\
 & + & 8 \\
 \hline
 & 13
 \end{array}$$

$$\begin{array}{r}
 & & 2 \\
 & + & 3 \\
 \hline
 & 5
 \end{array}$$

$$\begin{array}{r}
 & 13 \\
 + & 5 \\
 \hline
 63
 \end{array}$$

$$\begin{array}{r} \textcolor{red}{5} \\ + \\ \textcolor{red}{8} \end{array}$$

$$\begin{array}{r} \textcolor{red}{3} \ 0 \\ + \\ \textcolor{red}{2} \ 0 \end{array}$$

A vertical number tower for the equation $1 + 3 = 4$. The tower has a red top section labeled '3' and a yellow bottom section labeled '1'. Two black arrows point from the left towards the tower. A small black plus sign is at the bottom right.

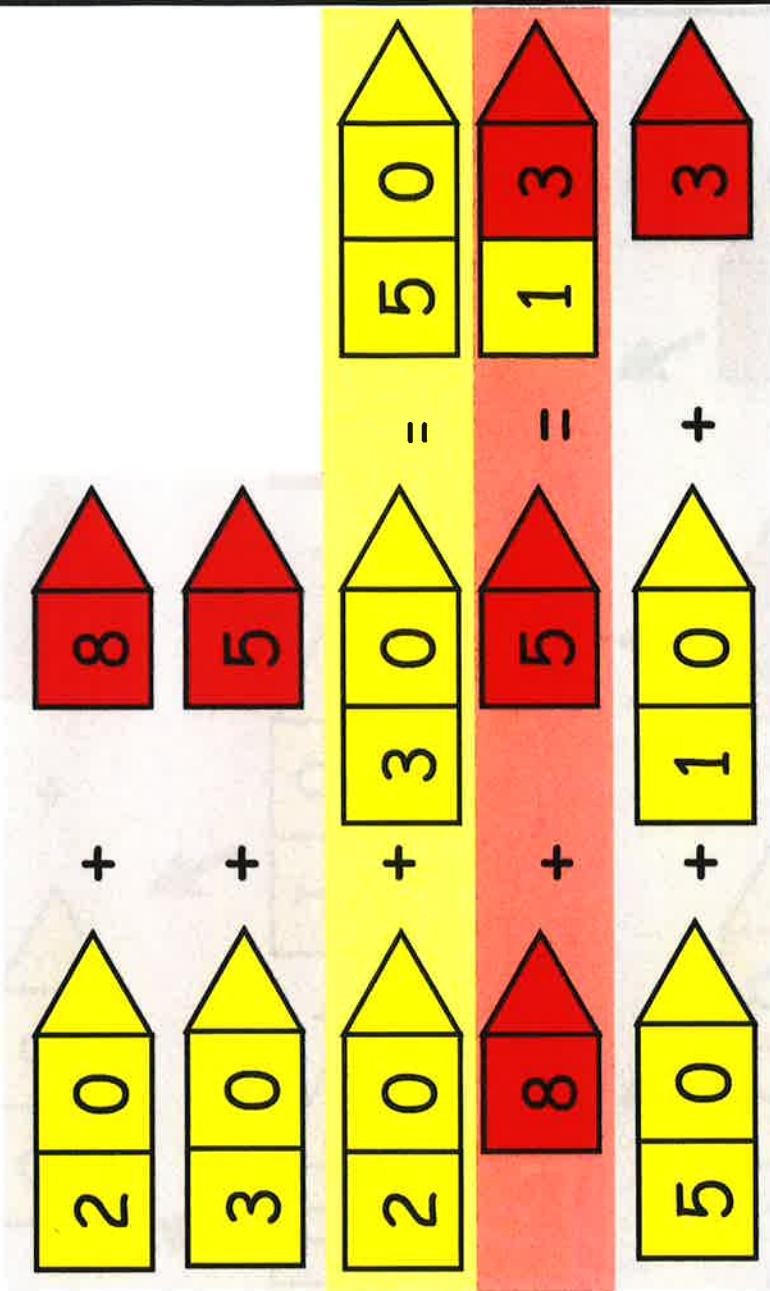
$$\begin{array}{r} \textcolor{red}{3} \\ + \\ \textcolor{yellow}{1} \end{array}$$

$$28 + 35 = 63$$

$$63 - 35 = 28 \qquad 63 - 28 = 35$$

$$28 + 35$$

$$\begin{array}{r} 28 \\ + 35 \\ \hline 63 \end{array}$$

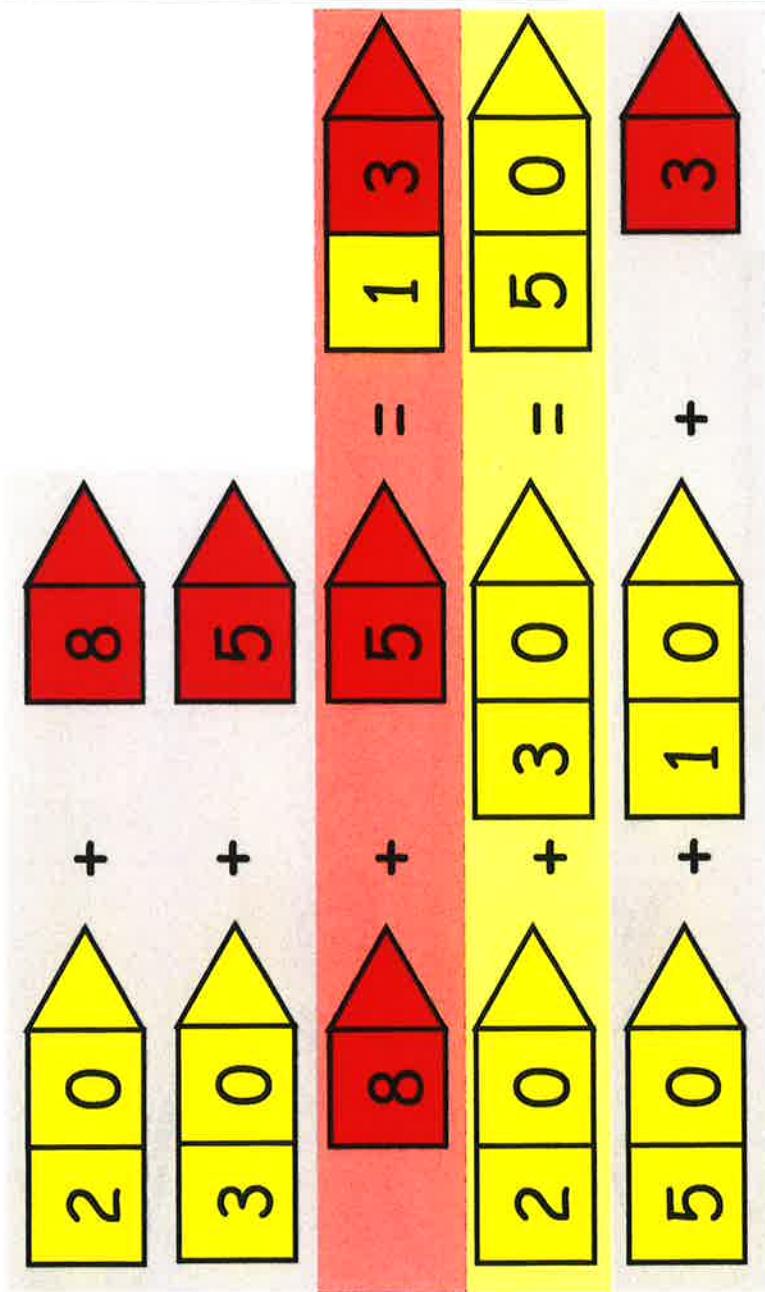


6

$28 + 35 = 63$	$35 + 28 = 63$
$63 - 35 = 28$	$63 - 28 = 35$

$$28 + 35$$

$$\begin{array}{r} 28 \\ + 35 \\ \hline 63 \end{array}$$



7

$$\begin{array}{r} 28 + 35 = 63 \\ 63 - 35 = 28 \end{array}$$
$$\begin{array}{r} 35 + 28 = 63 \\ 63 - 28 = 35 \end{array}$$

$$28 + 35$$

8

8 plus 5 is 13
($10 + 3$)

1

2a

3 from the 13

$$\begin{array}{r} 285 \\ + 363 \\ \hline 631 \end{array}$$

+

3

20 plus 30 is 50
50 add the
'carried' 10 is 60

'carried' 10 from
the 13

2b

$$28 + 35 = 63$$

$$35 + 28 = 63$$

$$63 - 35 = 28$$

$$63 - 28 = 35$$

$$\begin{array}{r} 239 \\ + \quad 53 \\ \hline 292 \end{array}$$

8a

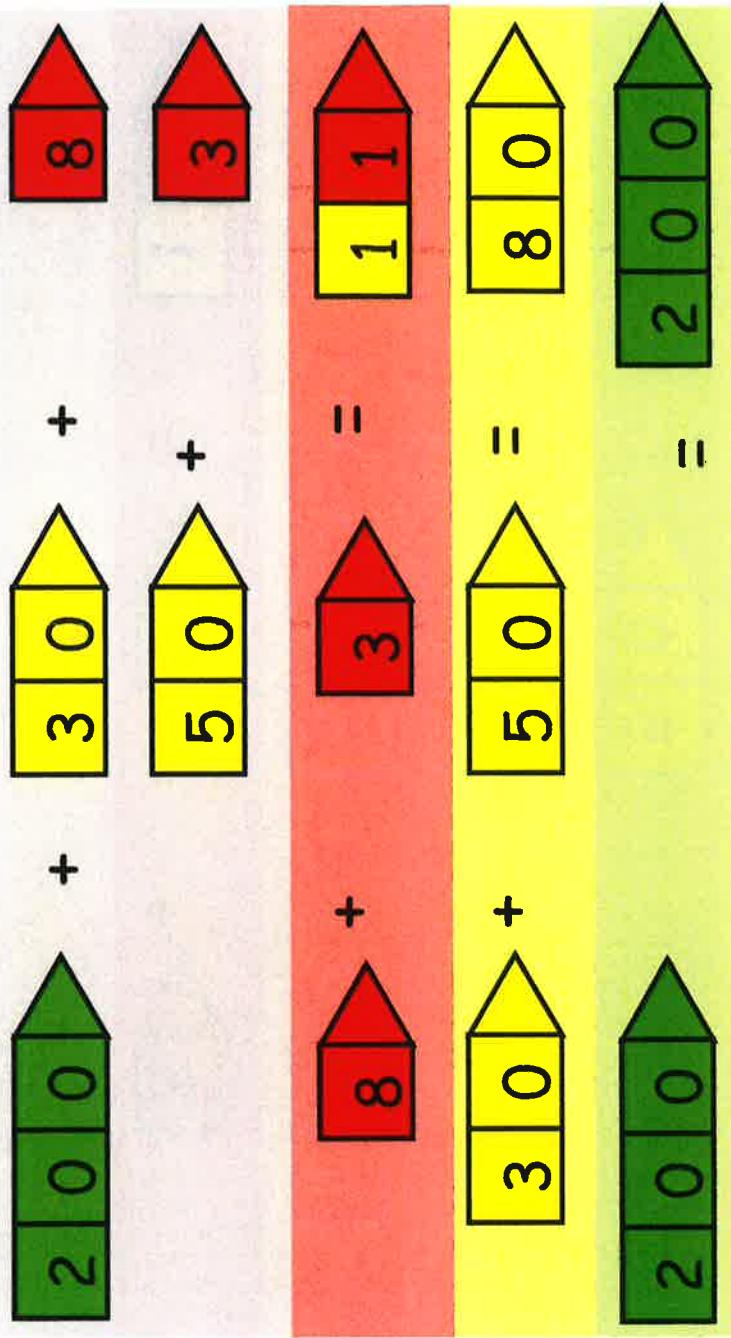
83 + 300 = 308 + 11 = 418

$$\begin{array}{r} 239 + 53 = 291 \\ 291 - 238 = 53 \end{array}$$

$$239 + 53$$

$$\begin{array}{r} 238 \\ 53 \\ \hline 11 \\ + \\ 80 \\ \hline 200 \\ \hline 291 \end{array}$$

8b



$$239 + 53 = 291$$

$$239 + 53 = 291$$

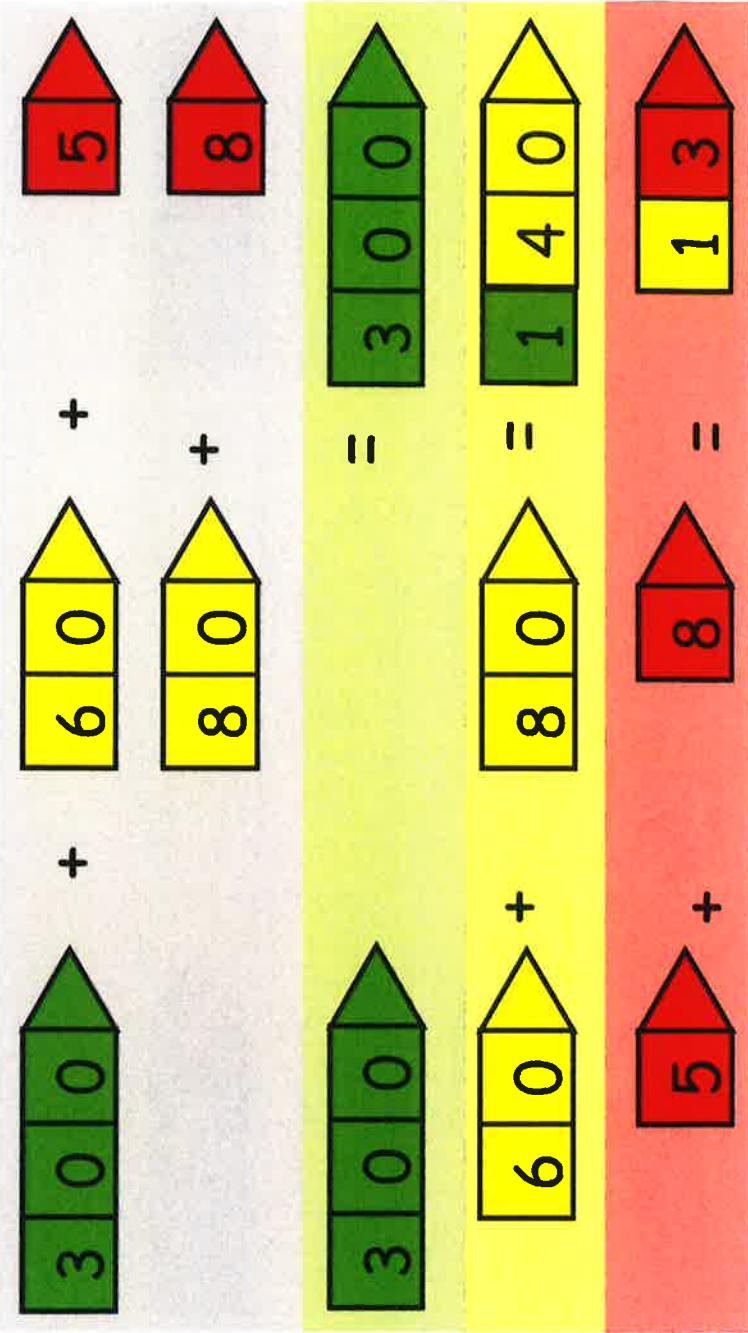
$$291 - 238 = 53$$

$$291 - 53 = 238$$

$$365 + 88$$

$$\begin{array}{r} 365 \\ + 88 \\ \hline 453 \end{array}$$

8c



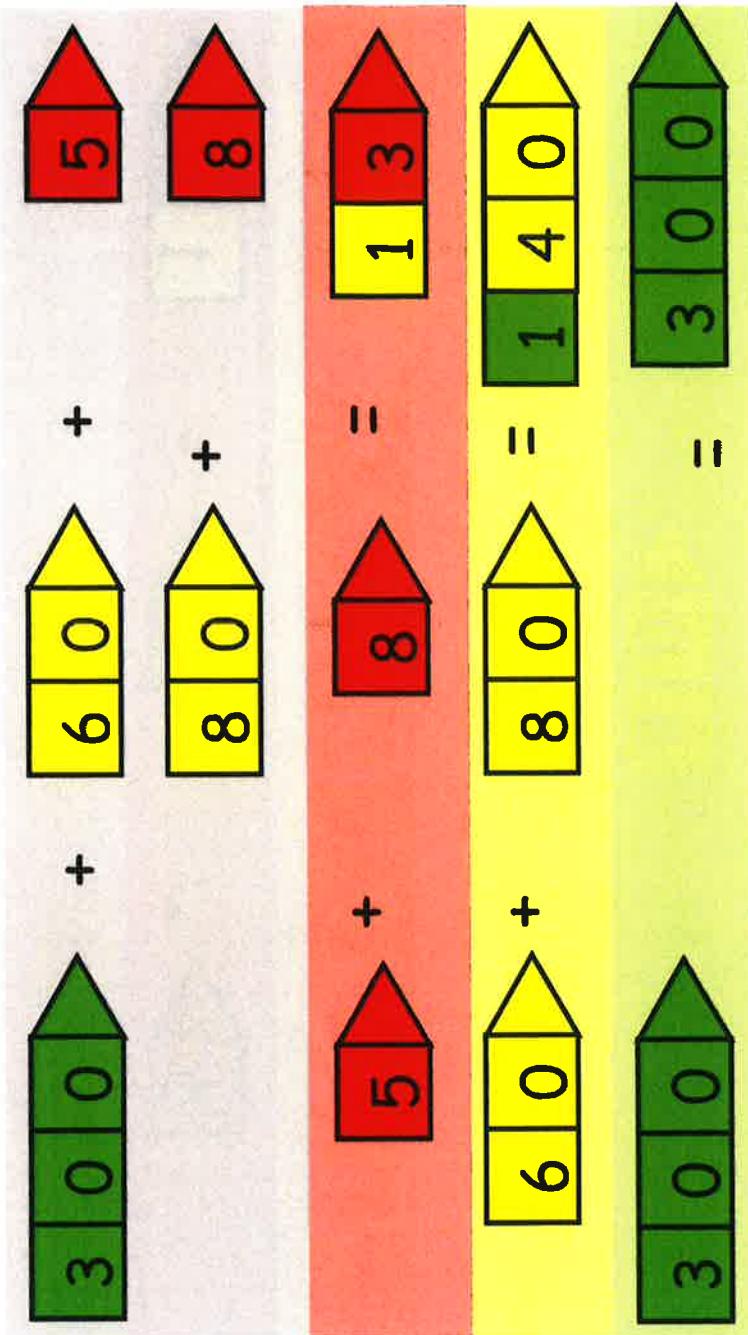
$$\begin{array}{r} 239 + 53 = 291 \\ 291 - 238 = 53 \\ 291 - 53 = 238 \end{array}$$

$$365 + 88$$

$$\begin{array}{r} 365 \\ + 88 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ 140 \\ + 300 \\ \hline 453 \end{array}$$

8d



$$365 + 88 = 453$$

$$88 + 365 = 453$$

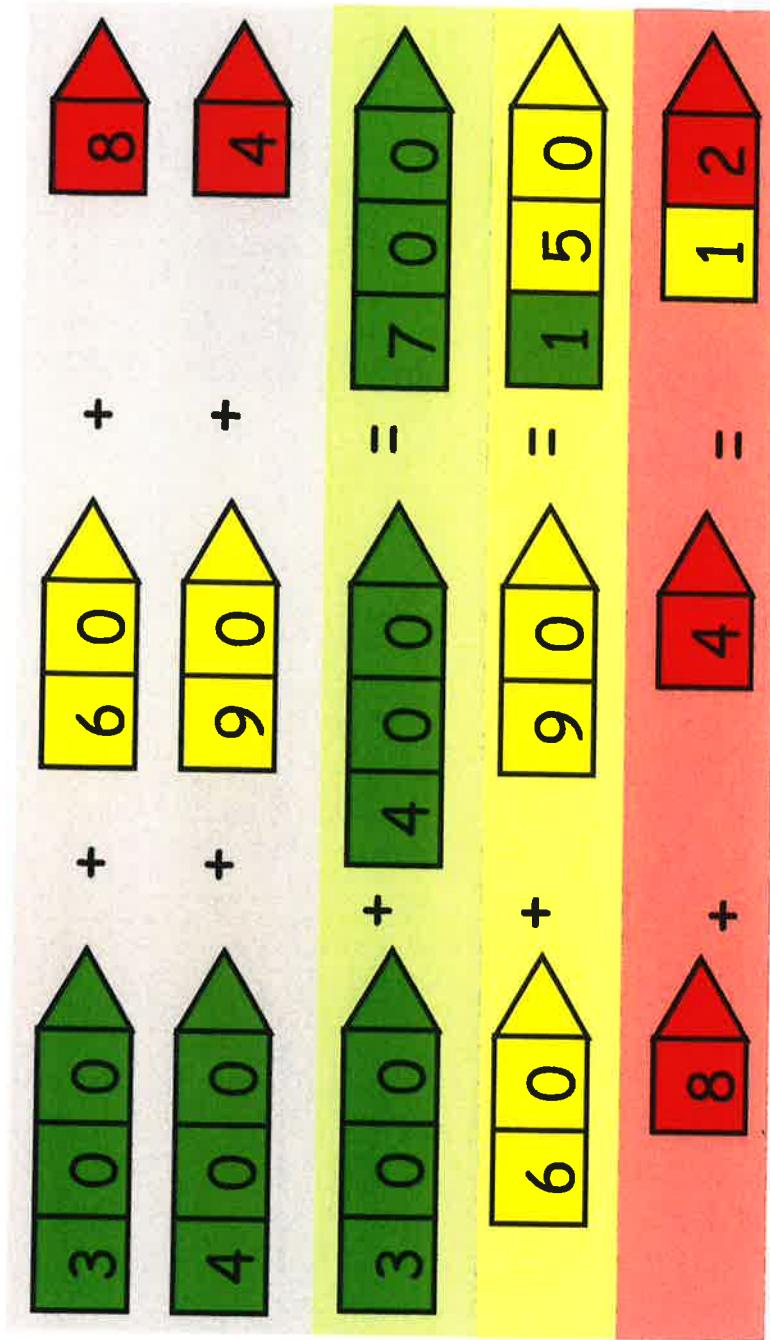
$$453 - 365 = 88$$

$$453 - 88 = 365$$

$$368 + 494$$

$$\begin{array}{r} 368 \\ + 494 \\ \hline 862 \end{array}$$

9



$$368 + 494 = 862$$

$$494 + 368 = 862$$

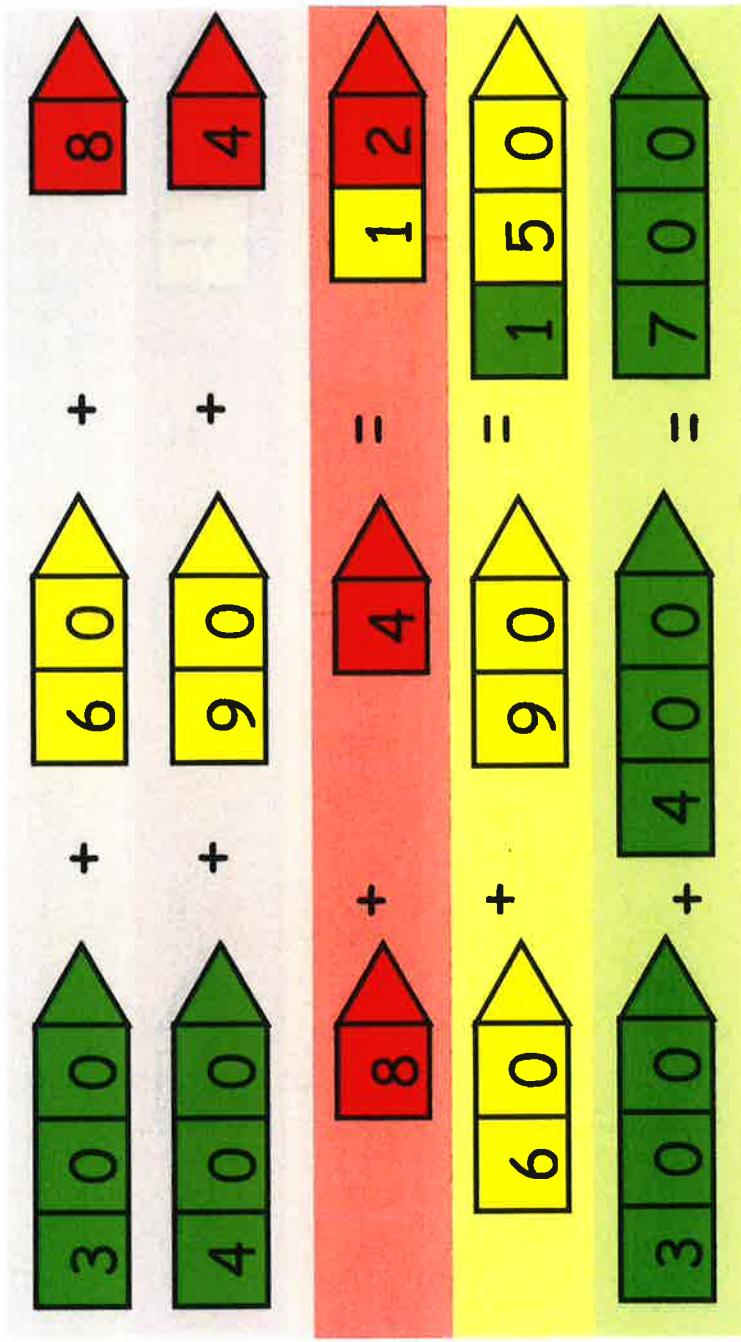
$$862 - 494 = 368$$

$$862 - 368 = 494$$

$$368 + 494$$

$$\begin{array}{r} 368 \\ + 494 \\ \hline 862 \end{array}$$

10



$$\begin{array}{rcl} 368 + 494 & = & 862 \\ 862 - 494 & = & 368 \\ 862 - 368 & = & 494 \end{array}$$

$$368 + 494$$

3a

60 plus 90 is 150
150 add the
'carried' 10 is 160

300 plus 400 is 700
700 add the
'carried' 100 is 800

4

$$\begin{array}{r} 368 \\ + 494 \\ \hline 862 \end{array}$$

'carried' 100
from the 160

3b

11

8 plus 4 is 12
(10 + 2)

1

2 from the 12

2a

2b

'carried' 10
from the 12

$$368 + 494 = 862$$

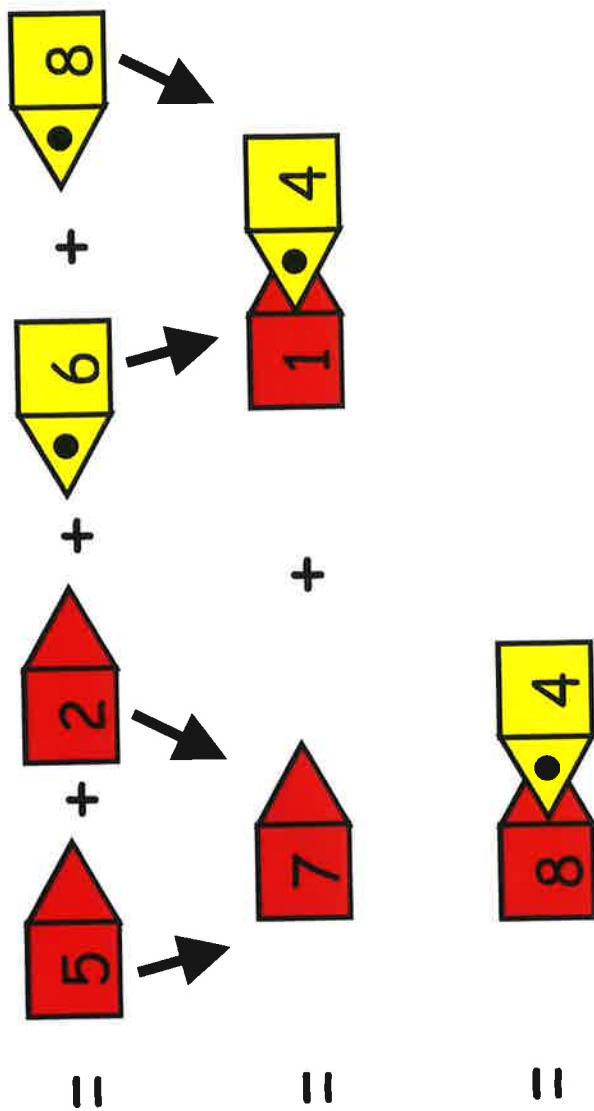
$$494 + 368 = 862$$

$$862 - 494 = 368$$

$$862 - 368 = 494$$

12

$$5.6 + 2.8 =$$

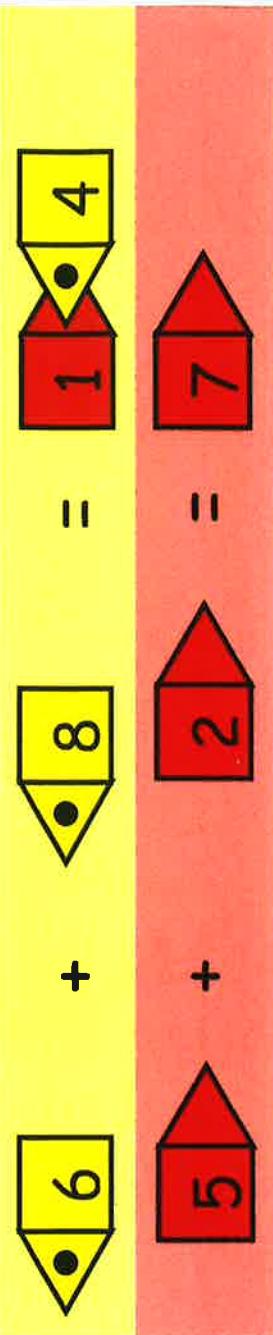
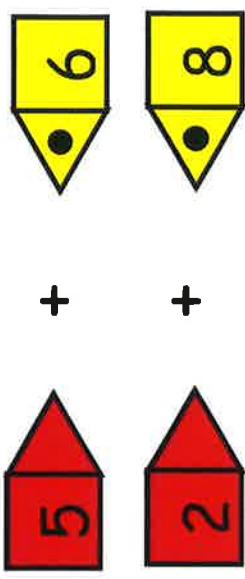


$5.6 + 2.8 = 8.4$	$2.8 + 5.6 = 8.4$
$8.4 - 2.8 = 5.6$	$8.4 - 5.6 = 2.8$

13

$$5.6 + 2.8$$

$$\begin{array}{r} 5 \cdot 6 \\ + 2 \cdot 8 \\ \hline 1 \cdot 4 \\ \\ 7 \cdot 0 \\ \hline 8 \cdot 4 \end{array}$$



$5.6 + 2.8 = 8.4$	$2.8 + 5.6 = 8.4$
$8.4 - 2.8 = 5.6$	$8.4 - 5.6 = 2.8$

$$5.6 + 2.8$$

14

5 plus 2 is 7.
7 plus the
'carried' 1 is 8

$$\begin{array}{r} & 6 \\ & \cdot \\ 5 & 2 & + & 8 \\ & & & \hline & 8 & 4 \\ & & & \hline & 1 \end{array}$$

3

1 0.6 plus 0.8 is
 1.4

2a 0.4 from
 the 1.4

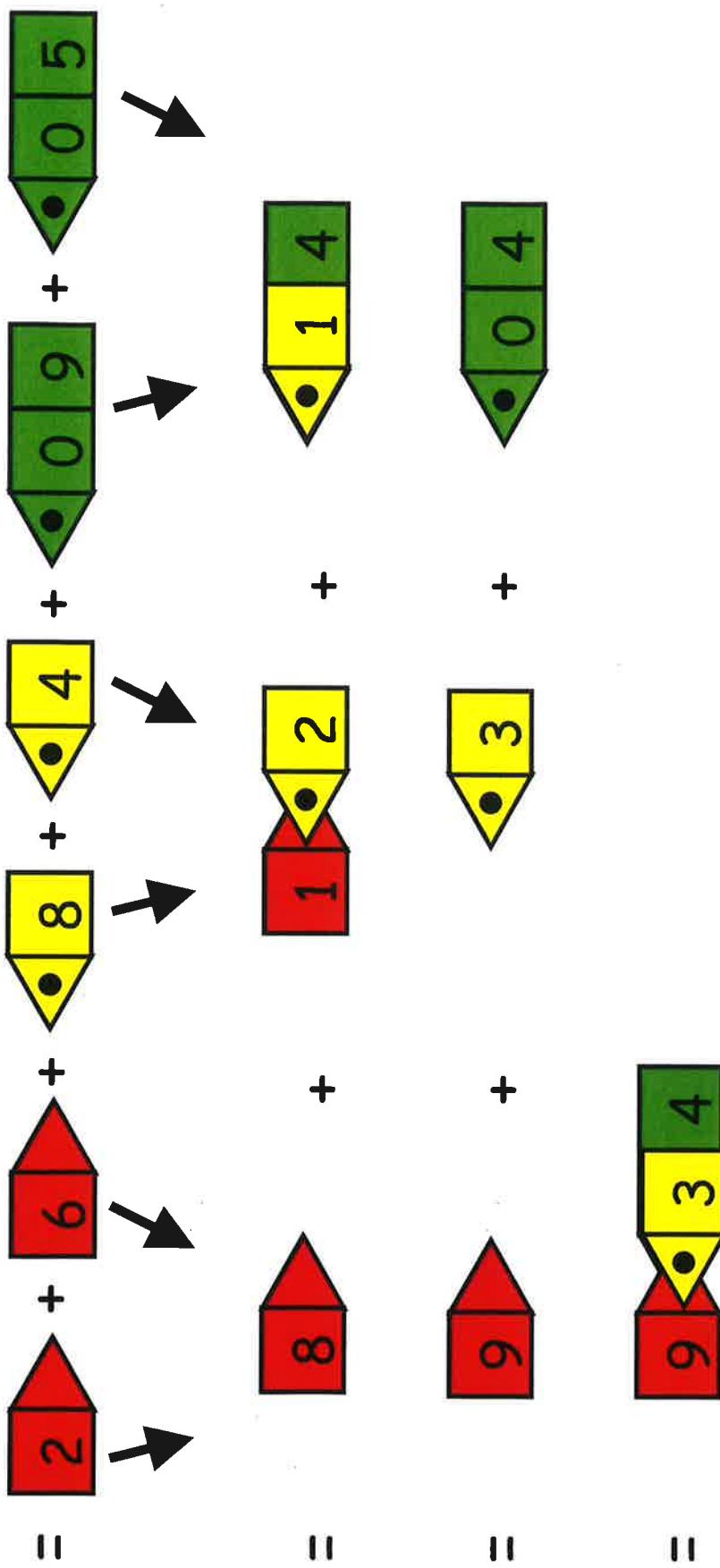
$5.6 + 2.8 = 8.4$	$2.8 + 5.6 = 8.4$
$8.4 - 2.8 = 5.6$	$8.4 - 5.6 = 2.8$

2b 'carried' 1
 from the 1.4

$$2.89 + 6.45 =$$

$$2 \begin{array}{r} \\ . \\ 8 \\ 9 \end{array} + 6 \begin{array}{r} \\ . \\ 4 \\ 5 \end{array} =$$

15



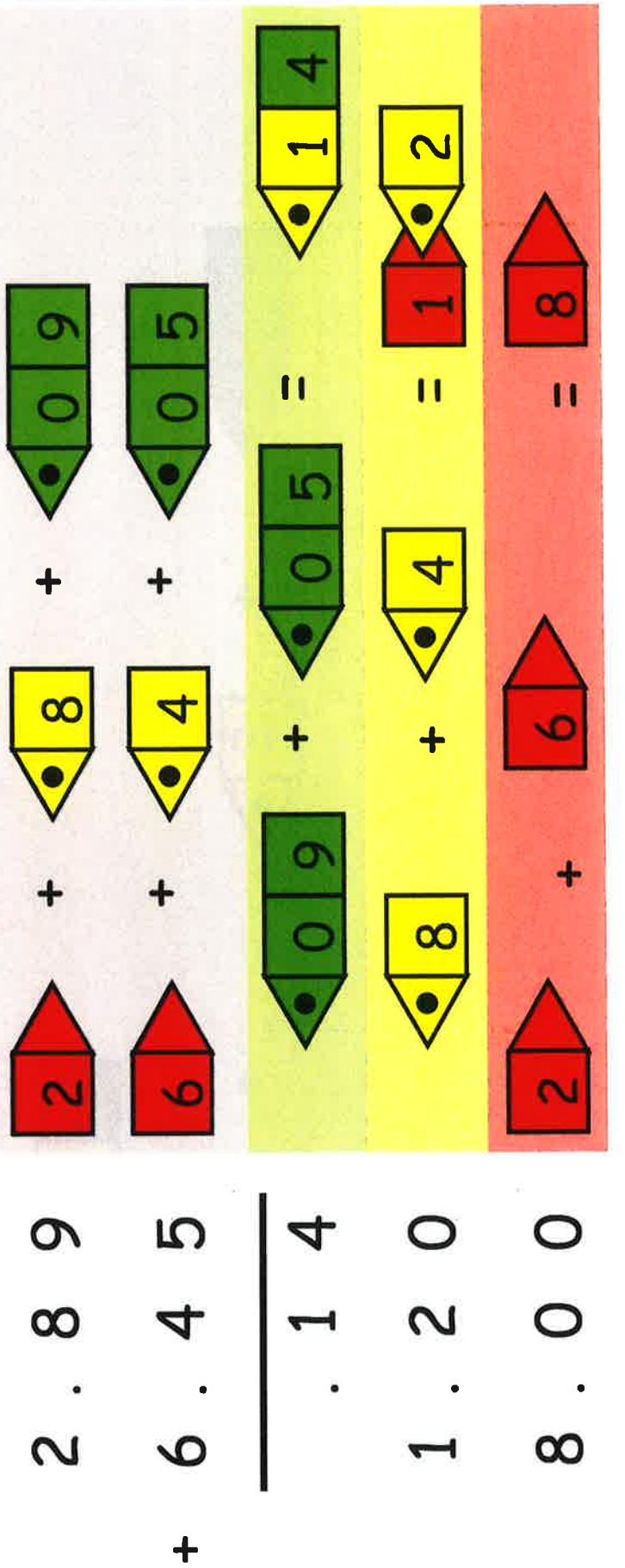
$$2.89 + 6.45 = 9.34$$

$$6.45 + 2.89 = 9.34$$

$$9.34 - 6.45 = 2.89$$

$$9.34 - 2.89 = 6.45$$

$$2.89 + 6.45$$



$2.89 + 6.45 = 9.34$	$6.45 + 2.89 = 9.34$
$9.34 - 6.45 = 2.89$	$9.34 - 2.89 = 6.45$

$$2.89 + 6.45$$

17

3a 0.8 plus 0.4 is 1.2.
 1.2 plus the 'carried'
 0.1 is 1.3

2 plus 6 is 8.
 8 plus the
 'carried' 1 is 9

4

1 0.09 plus 0.05
 is 0.14

2a

0.04 from
the 0.14

2b

'carried' 0.1
from the 0.14

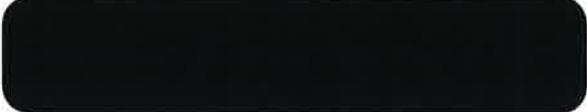
$$2.89 + 6.45 = 9.34$$

$$6.45 + 2.89 = 9.34$$

$$9.34 - 6.45 = 2.89$$

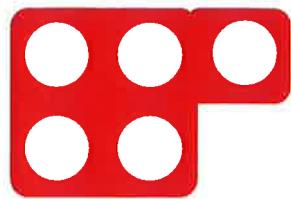
$$9.34 - 2.89 = 6.45$$

$$\begin{array}{r} & 8 & 9 \\ & . & 5 \\ \hline & 2 & 6 & + & 9 \\ & . & 4 & & . \\ & & 2 & 4 \\ \hline & & 1 & 1 & \\ & & 1 & & \end{array}$$



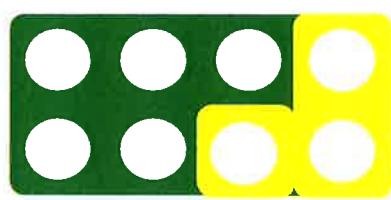
subtraction

1



=

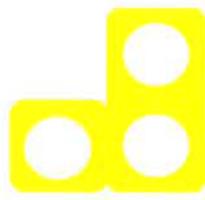
5



=

(8 - 3) =

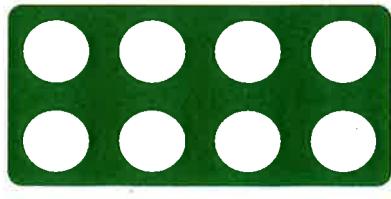
3



-

8 - 3 =

8



8 - 3 = 5

8 - 5 = 3

5 + 3 = 8

3 + 5 = 8

$$72 - 48 =$$

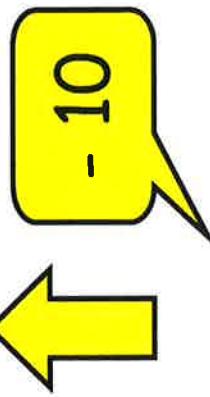
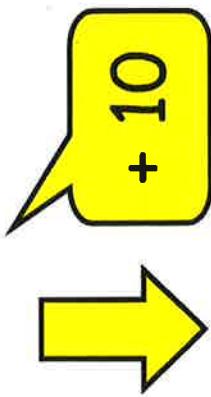
2

+ 1



↑ C O I U M N ↓

-21	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8
-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2
-1	0	1	2	3	4	5	6	7	8	9	10	11	12
9	10	11	12	13	14	15	16	17	18	19	20	21	22
19	20	21	22	23	24	25	26	27	28	29	30	31	32
29	30	31	32	33	34	35	36	37	38	39	40	41	42
39	40	41	42	43	44	45	46	47	48	49	50	51	52
49	50	51	52	53	54	55	56	57	58	59	60	61	62
59	60	61	62	63	64	65	66	67	68	69	70	71	72
69	70	71	72	73	74	75	76	77	78	79	80	81	82
79	80	81	82	83	84	85	86	87	88	89	90	91	92
89	90	91	92	93	94	95	96	97	98	99	100	101	102
99	100	101	102	103	104	105	106	107	108	109	110	111	112
109	110	111	112	113	114	115	116	117	118	119	120	121	122



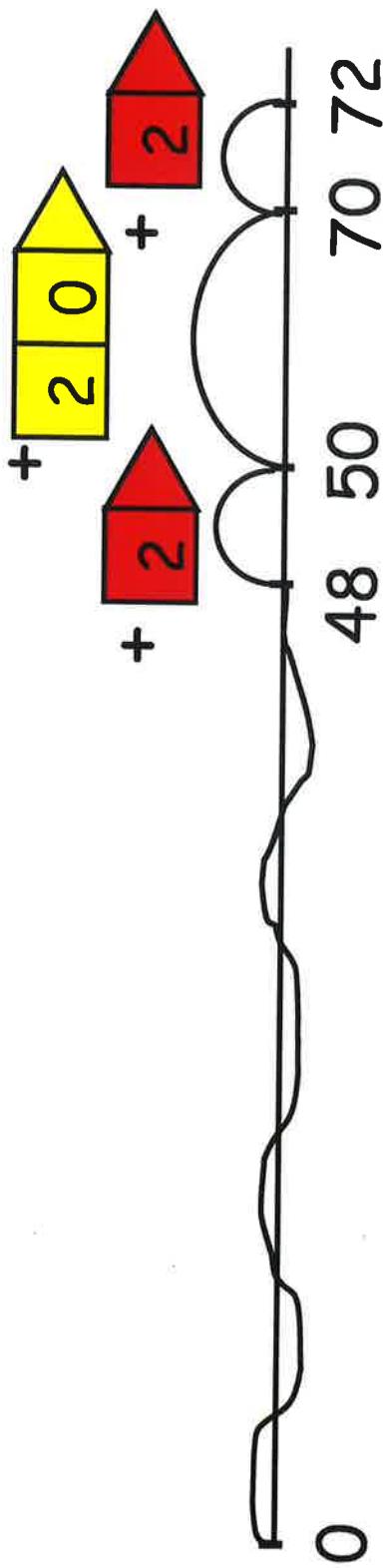
r o w →

3

$$\begin{array}{r} 4 \\ \underline{-} \\ 8 \end{array}$$

$$\begin{array}{r} 7 \\ \underline{-} \\ 2 \end{array}$$

$$72 - 48 =$$



$$\begin{array}{r} 2 \\ + \\ 2 \\ = \\ 4 \end{array}$$

$$72 - 48 = 24$$

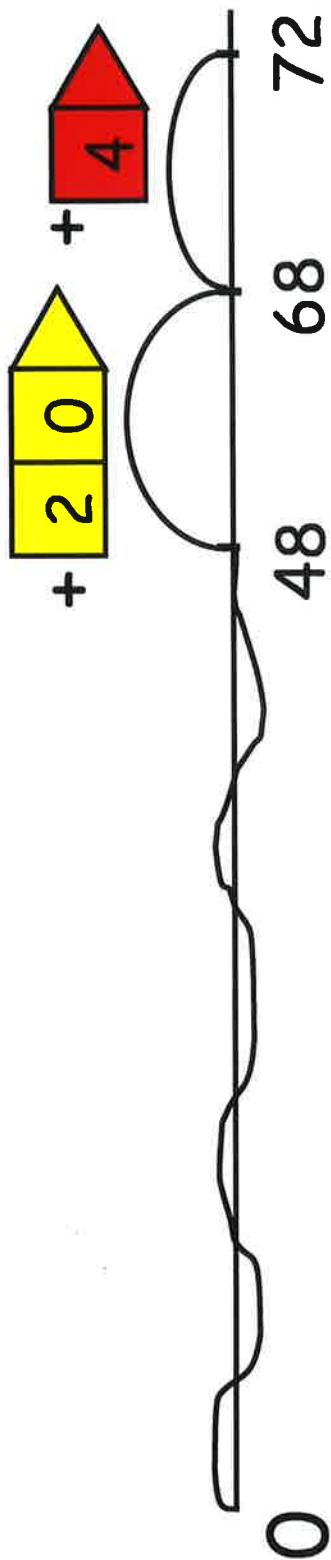
$$72 - 24 = 48$$

$$24 + 48 = 72$$

$$48 + 24 = 72$$

4

$$72 - 48 =$$



$$= 24$$

A red house-shaped frame containing the number 24.

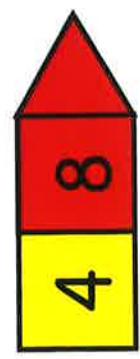
$$72 - 48 = 24$$

$$72 - 24 = 48$$

$$24 + 48 = 72$$

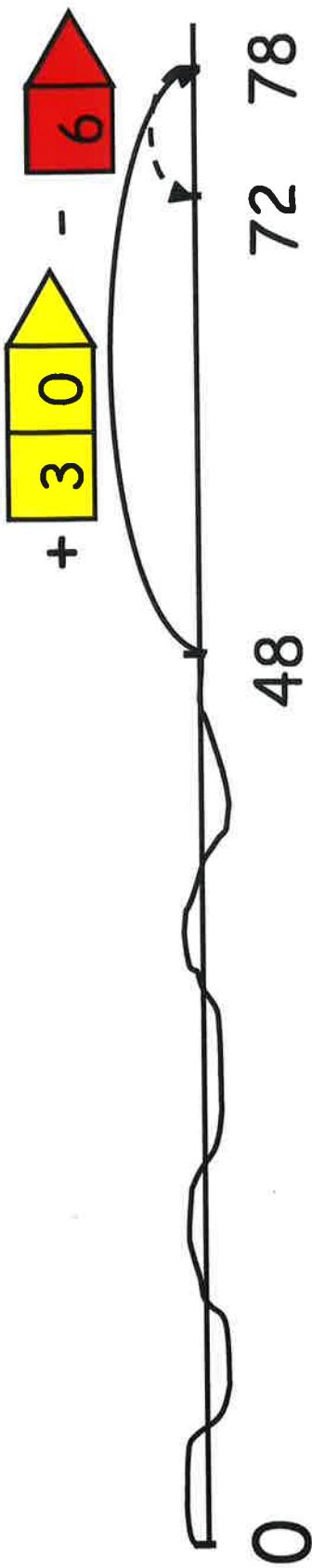
$$48 + 24 = 72$$

5



$$72 - 48 =$$

$$48 + 30 - 6$$



$$= 30$$



$$= 24$$

$$72 - 48 = 24$$

$$72 - 24 = 48$$

$$24 + 48 = 72$$

$$48 + 24 = 72$$

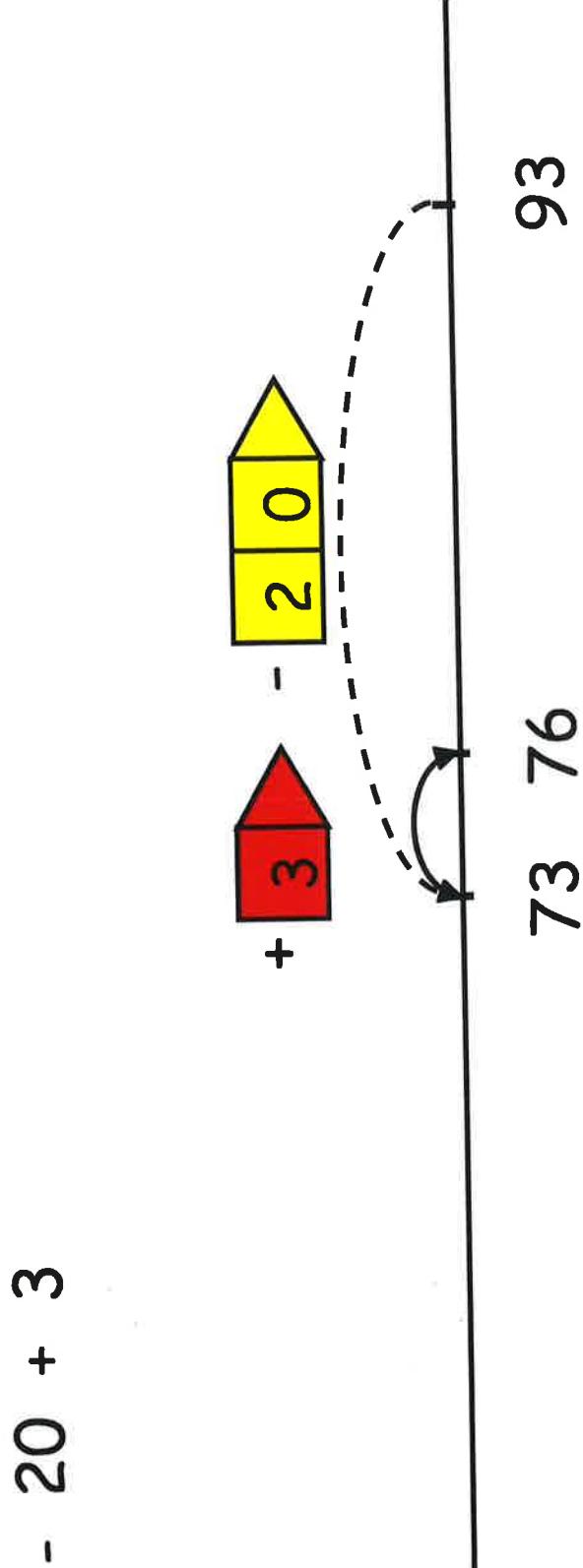
6



$$93 - 17 =$$



$$93 - 20 + 3$$



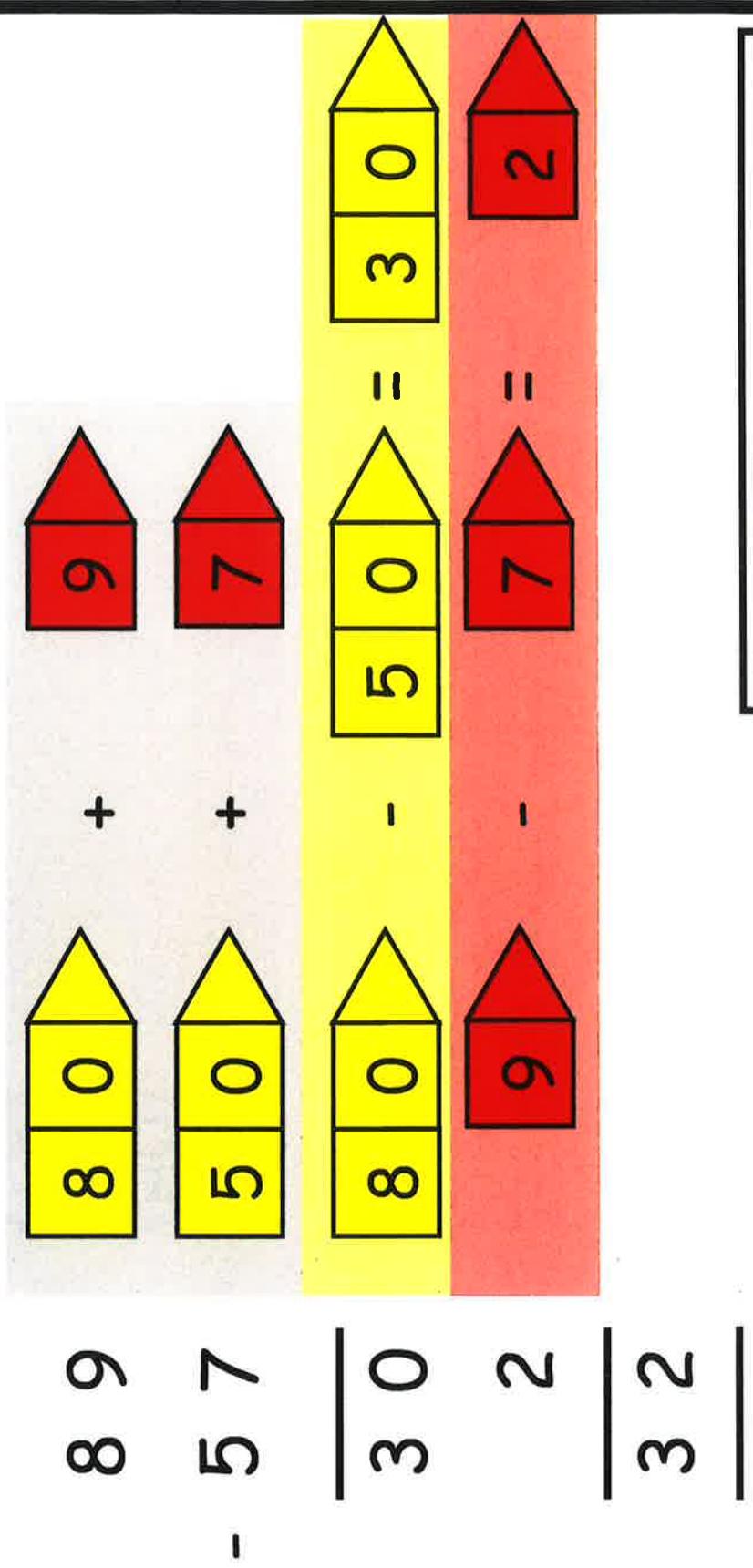
$$93 - 17 = 76$$

$$93 - 76 = 17$$

$$76 + 17 = 93$$

$$17 + 76 = 93$$

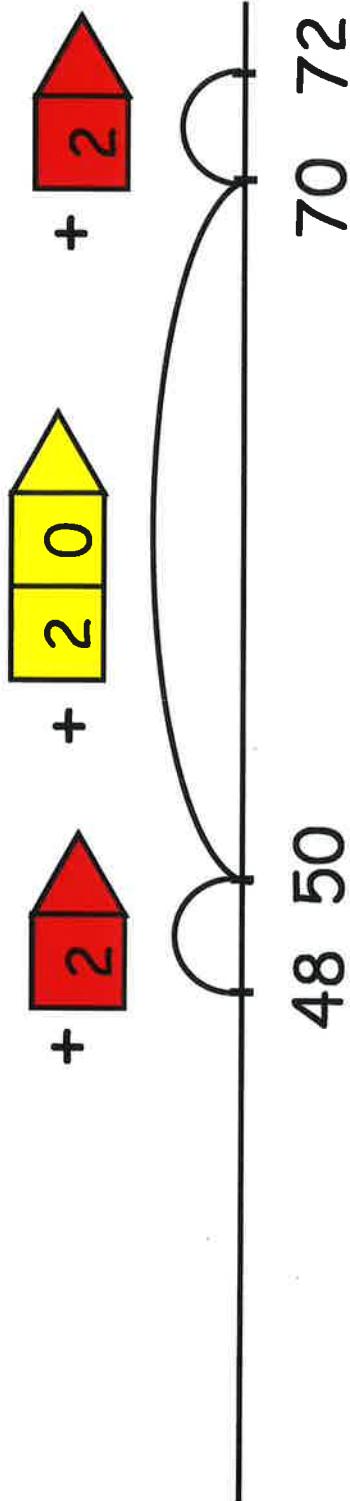
$$89 - 57$$



$89 - 57 = 32$	$89 - 32 = 57$
$32 + 57 = 89$	$57 + 32 = 89$

7

$$72 - 48$$



$$\begin{array}{r}
 72 \\
 - 48 \\
 \hline
 24
 \end{array}$$

(50)
(70)
(72)

$$72 - 48 = 24$$

$$72 - 24 = 48$$

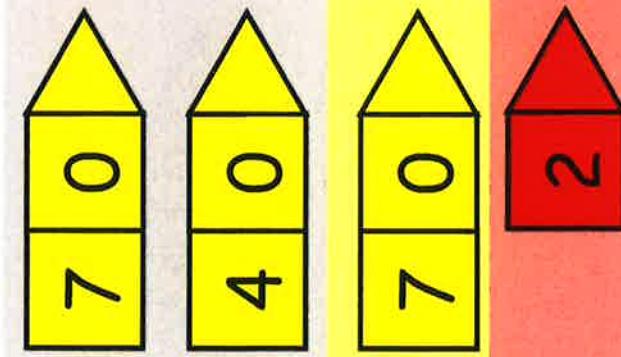
$$24 + 48 = 72$$

$$48 + 24 = 72$$

8

$$72 - 48$$

$$\begin{array}{r}
 72 \\
 - 48 \\
 \hline
 30
 \end{array}
 \quad
 \begin{array}{r}
 - 6 \\
 \hline
 24
 \end{array}$$



$$\begin{array}{r}
 2 \\
 + 8 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 30 \\
 - 40 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 = \\
 - 6 \\
 \hline
 8
 \end{array}$$

$$72 - 48 = 24$$

$$72 - 24 = 48$$

$$24 + 48 = 72$$

$$48 + 24 = 72$$

$$72 - 48$$

$$\begin{array}{r} 72 \\ - 48 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + \\ 8 \\ \hline \end{array}$$

$$\begin{array}{r} 70 \\ + \\ 40 \\ \hline \end{array}$$

$$\begin{array}{r} 6712 \\ - 48 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 12 \\ + \\ 8 \\ \hline \end{array}$$

~~$$\begin{array}{r} 60 \\ + \\ 40 \\ \hline \end{array}$$~~

$$72 - 48 = 24$$

$$24 + 48 = 72$$

$$48 + 24 = 72$$

9

2 minus 8

1

Change 70
into $60 + 10$

2a

2b

12 minus 8
is 4

$$72 - 48$$

$$\begin{array}{r} 6 \ 1 \\ \cancel{7} \ 2 \\ - 4 8 \\ \hline 2 4 \end{array}$$

60 minus
40 is 20

3

$$72 - 48 = 24$$

$$72 - 24 = 48$$

$$24 + 48 = 72$$

$$48 + 24 = 72$$

10

$$842 - 276$$

$$\begin{array}{r} 842 \\ - 276 \\ \hline 566 \end{array}$$

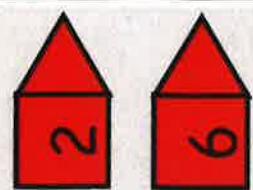
Diagram illustrating the subtraction: 842 minus 276 equals 566. The numbers are shown as blocks: 8 (red), 4 (yellow), and 2 (green) for 842; 2 (red), 7 (yellow), and 6 (green) for 276; and 5 (red), 4 (yellow), and 2 (green) for 566. A minus sign is placed between the first two blocks.

$$\begin{array}{r} 842 \\ - 276 \\ \hline 566 \end{array}$$

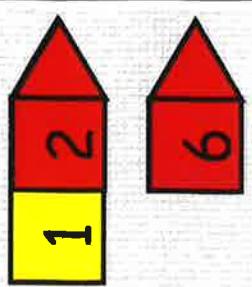
(280)
(300)
(842)

$842 - 276 = 566$	$842 - 566 = 276$
$566 + 276 = 842$	$276 + 566 = 842$

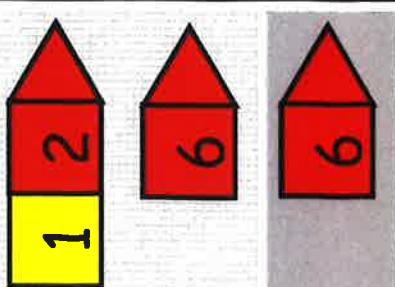
11



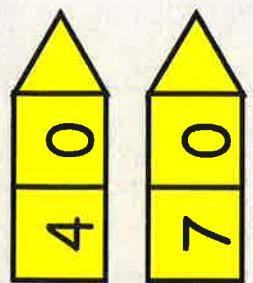
+ +



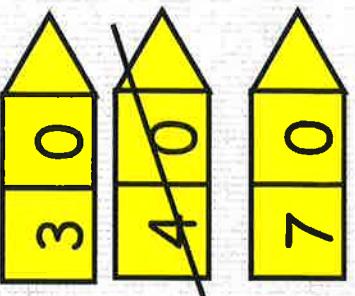
+ +



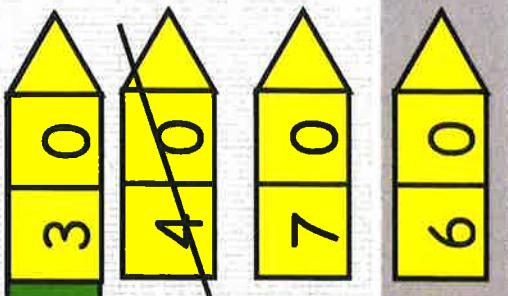
+ + +



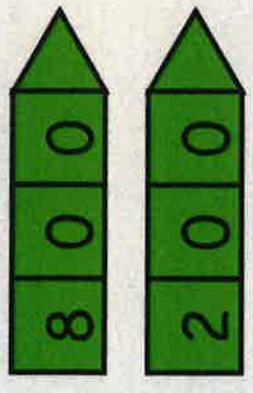
+ +



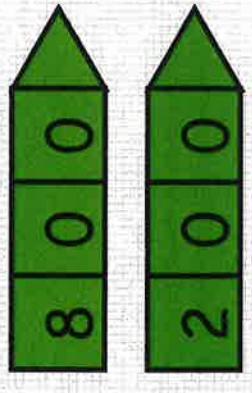
+ +



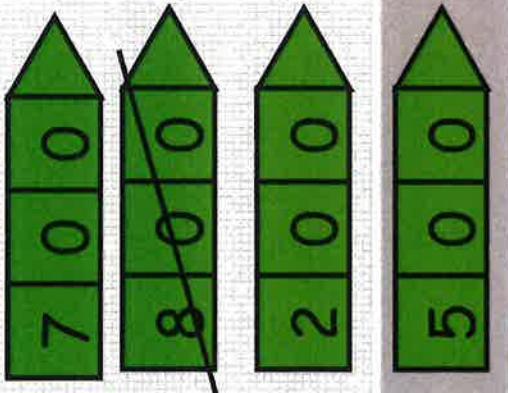
+ + +



- -



- -



- -

$$\begin{array}{r} 842 \\ - 276 \\ \hline \end{array}$$

$$\begin{array}{r} 83412 \\ - 276 \\ \hline \end{array}$$

$$\begin{array}{r} 7813412 \\ - 276 \\ \hline 566 \end{array}$$

$$\begin{array}{r}
 \begin{array}{c} 4 \\ + \\ 6 \end{array} & \begin{array}{c} 1 \\ + \\ 6 \end{array} & \begin{array}{c} 1 \\ + \\ 6 \end{array} \\
 \end{array}$$

$$\begin{array}{r}
 \begin{array}{c} 5 \\ 0 \\ + \\ 8 \\ 0 \end{array} & \begin{array}{c} 4 \\ 0 \\ 5 \\ 0 \\ + \\ 8 \\ 0 \end{array} & \begin{array}{c} 1 \\ 4 \\ 0 \\ 5 \\ 0 \\ + \\ 8 \\ 0 \end{array} \\
 \end{array}$$

$$\begin{array}{r}
 \begin{array}{c} 7 \\ 0 \\ 0 \\ - \\ 8 \\ 6 \end{array} & \begin{array}{c} 7 \\ 0 \\ 0 \\ - \\ 8 \\ 6 \end{array} & \begin{array}{c} 6 \\ 0 \\ 0 \\ - \\ 7 \\ 0 \\ 0 \end{array} \\
 \end{array}$$

$$\begin{array}{r}
 \begin{array}{r}
 754 \\
 86 \\
 - \\
 \hline
 74514
 \end{array} & \begin{array}{r}
 86 \\
 - \\
 \hline
 668
 \end{array} & \begin{array}{r}
 14514 \\
 86 \\
 - \\
 \hline
 668
 \end{array}
 \end{array}$$

$$842 - 276$$

12

130 minus 70 is 60

4b

30 minus 70

3

Change 800
to 700 + 100

4a

700 minus 200
is 500

5

Change 40 to
 $30 + 10$

2a

2 minus 6

1

12 minus 6
is 6

2b

$$\begin{array}{r} 8 & 4 & 2 \\ - & 2 & 7 & 6 \\ \hline 5 & 6 & 6 \end{array}$$

$$842 - 276 = 566$$

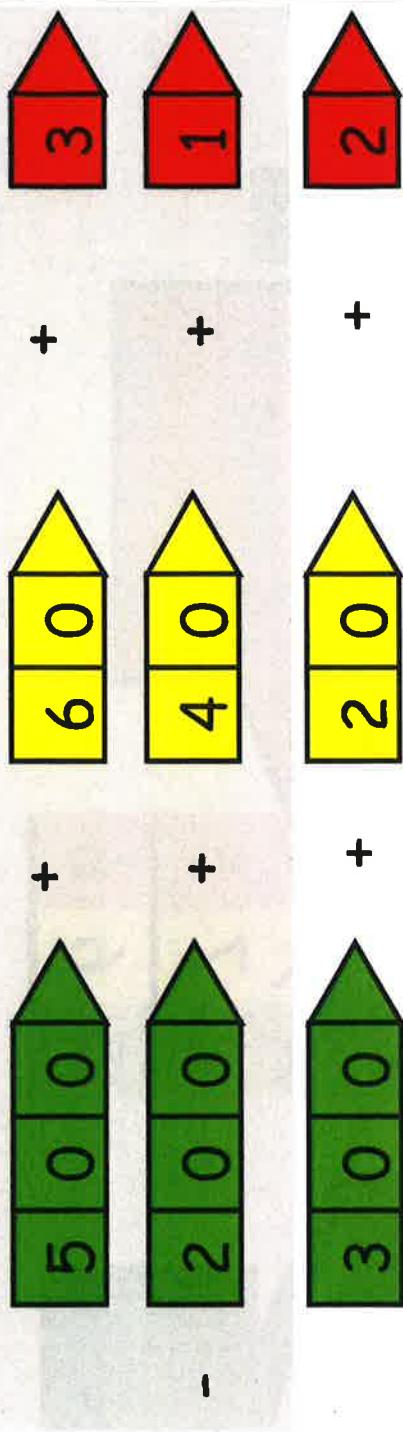
$$842 - 566 = 276$$

$$566 + 276 = 842$$

$$276 + 566 = 842$$

$$563 - 241$$

$$\begin{array}{r} 563 \\ - 241 \\ \hline 322 \end{array}$$



13

$$563 - 241 = 322$$

$$322 + 241 = 563$$

$$563 - 322 = 241$$

$$241 + 322 = 563$$

14

$$563 - 241$$

60 minus 40
is 20

2

500 minus 200
is 300

3

3 minus 1
is 2

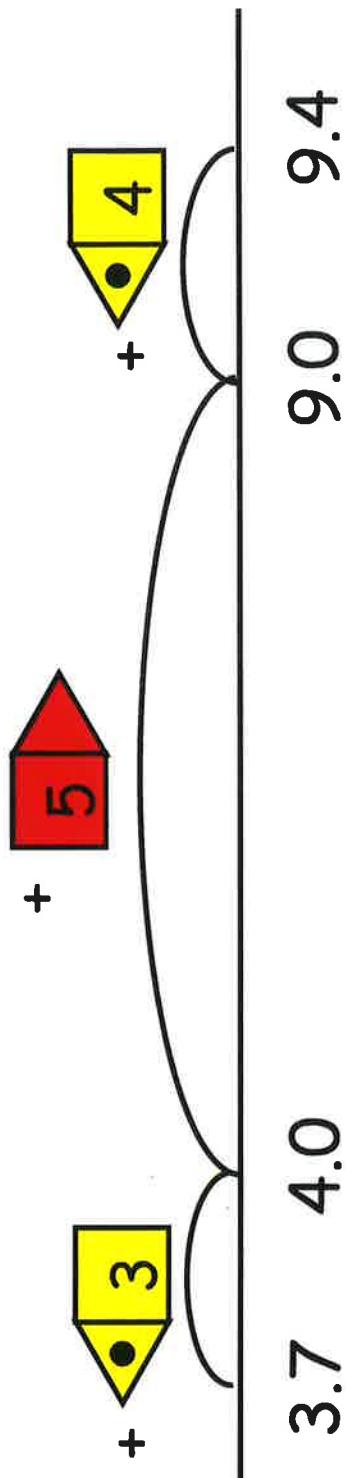
1

$$\begin{array}{r} 563 \\ - 241 \\ \hline 322 \end{array}$$

$$\begin{array}{rcl} 563 - 241 & = & 322 \\ 322 + 241 & = & 563 \\ 563 - 322 & = & 241 \\ 241 + 322 & = & 563 \end{array}$$

15

$$9.4 - 3.7$$



$$\begin{array}{r} 9.4 \\ - 3.7 \\ \hline 5.7 \end{array}$$

$$9.4 - 3.7 = 5.7$$

$$5.7 + 3.7 = 9.4$$

$$3.7 + 5.7 = 9.4$$

$$9.4 - 3.7$$

16

0.4 minus 0.7

1

Change 9
to 8 + 1

2a

8 minus 3
is 5

3

$$\begin{array}{r} & 1 & 4 \\ & \cdot & 7 \\ - & 9 & 3 \\ \hline & 5 & 7 \end{array}$$

2b

1.4 minus 0.7
is 0.7

$$9.4 - 3.7 = 5.7$$

$$9.4 - 5.7 = 3.7$$

$$5.7 + 3.7 = 9.4$$

$$3.7 + 5.7 = 9.4$$

17

$$6.43 - 2.61$$

6.43
+ 3
+ 2.61

3.82

$$\begin{array}{r}
 & 6 & 4 & 3 \\
 - & 2 & 6 & 1 \\
 \hline
 & 0 & 0 & 9 & (2.70) \\
 & 0 & . & 3 & 0 & (3.00) \\
 & 3 & . & 0 & 0 & (6.00) \\
 & 0 & . & 4 & 3 & (6.43) \\
 \hline
 & 3 & . & 8 & 2
 \end{array}$$

$6.43 - 2.61 = 3.82$	$6.43 - 3.82 = 2.61$
$3.82 + 2.61 = 6.43$	$2.61 + 3.82 = 6.43$

$$6.43 - 2.61$$

18

1.4 minus 0.6
is 0.8

3b

0.4 minus 0.6

2

Change 6
to 5 + 1

3a

5 minus 2
is 3

4

0.03 minus 0.01
is 0.02

1

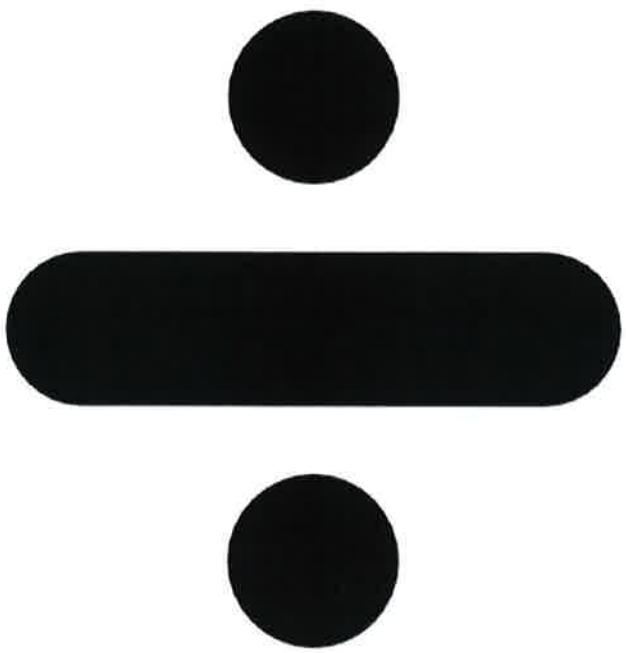
$$\begin{array}{r} & 1 & 4 & 3 \\ & \cdot & 6 & 1 \\ - & 2 & 3 & 8 \\ \hline & & 8 & 2 \end{array}$$

$$6.43 - 2.61 = 3.82$$

$$6.43 - 3.82 = 2.61$$

$$3.82 + 2.61 = 6.43$$

$$2.61 + 3.82 = 6.43$$



division

Grouping



Dividing can be done in two ways :

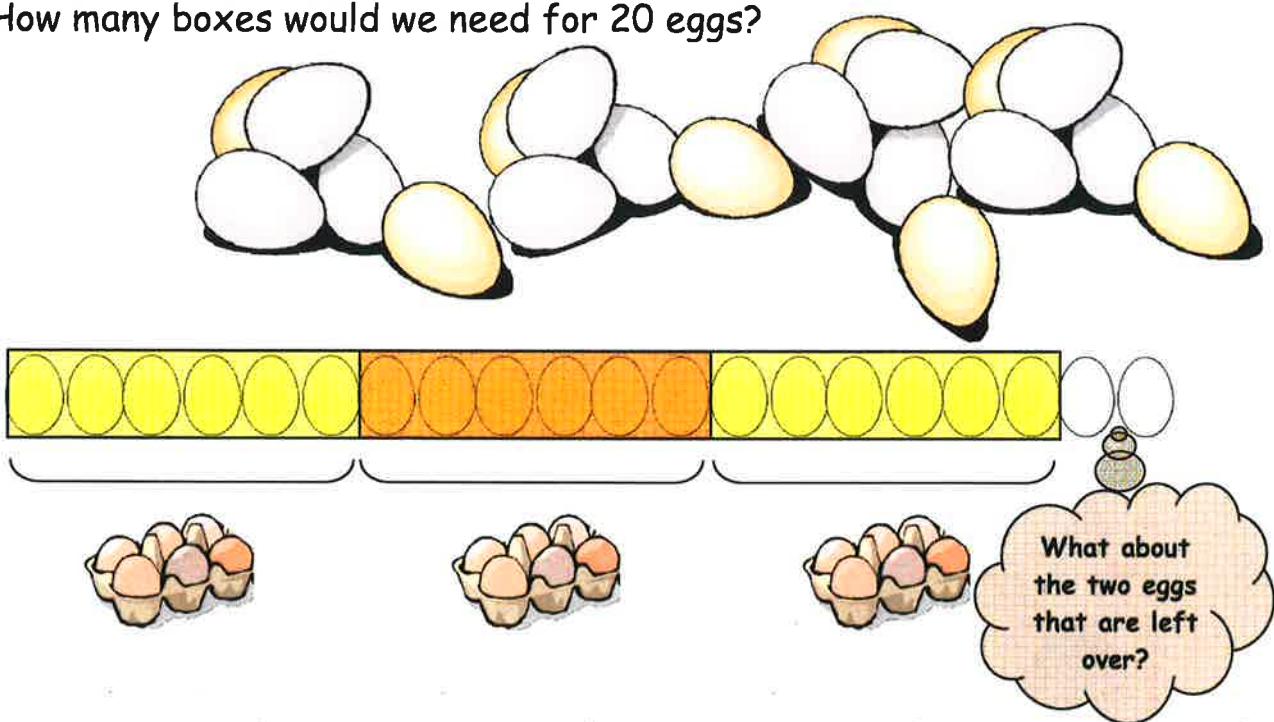
'grouping' and 'sharing.'

When grouping, we repeatedly subtract 'groups' of the same size from the total, to find the total number of 'groups.'

Here's an example:

Eggs come in boxes of 6.

How many boxes would we need for 20 eggs?



The question asks 'How many boxes would we need for 20 eggs?'

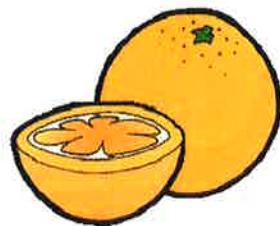
From the picture above, we see that we have 3 full boxes of eggs, but we need another box to put the two eggs that are left over.

$$20 \div 6 = 3 \text{ remainder } 2$$

Answer : 4 boxes are needed for

20 eggs

Sharing



Dividing can be done in two ways :

'grouping' and 'sharing.'

When sharing, we distribute the total evenly between a specific number.

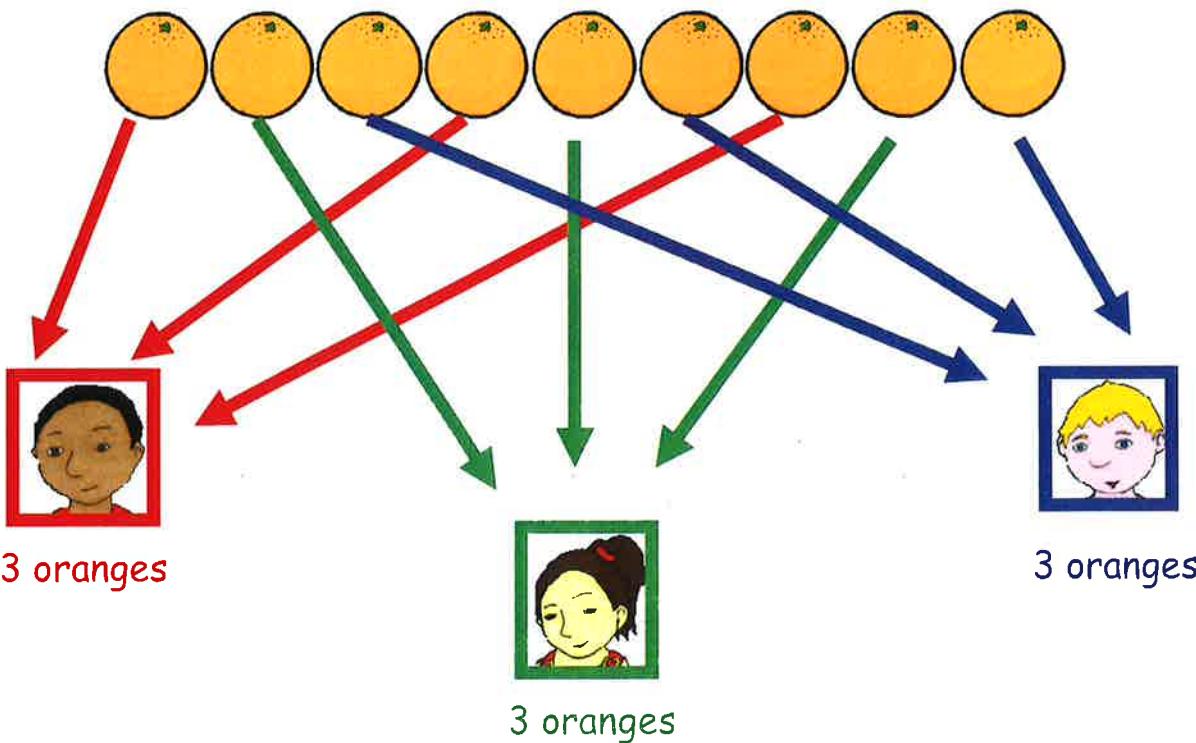
Here's an example:

A bag contains 9 oranges.

The oranges are to be shared equally among 3 children.

How many oranges will each child get?

one for you..... one for you.....one for you



$$9 \div 3 = 3$$

Answer : Each child gets 3 oranges

3

$$75 \div 5$$

$$\begin{array}{r}
 15 \\
 \hline
 5 \overline{)75} \\
 -5 \quad 0 \\
 \hline
 2 \quad 5 \\
 -2 \quad 5 \\
 \hline
 0
 \end{array}$$

$\overline{10} \times 5$

$\overline{5} \times 5$

1	x	5	=	5
2	x	5	=	10
5	x	5	=	25
10	x	5	=	50

$75 \div 5 = 15$	$75 \div 15 = 5$
$15 \times 5 = 75$	$5 \times 15 = 75$

$$69 \div 4$$

$$\begin{array}{r}
 1 \quad 7 \quad r. \quad 1 \\
 4 \overline{)6 \quad 9} \\
 - \quad 4 \quad 0 \\
 \hline
 2 \quad 9 \\
 - \quad 2 \quad 0 \\
 \hline
 9 \\
 - \quad 8 \\
 \hline
 1
 \end{array}$$

1	x	4	=	4
2	x	4	=	8
5	x	4	=	20
1	0	x	4	= 40

$$69 \div 4 = 17 \text{ r. } 1$$

$$\begin{array}{r}
 17 \times 4 + 1 = 69 \\
 4 \times 17 + 1 = 69
 \end{array}$$

$$854 \div 7$$

$$\begin{array}{r} 1 & 2 & 2 \\ \hline 7 & 8 & 5 & 4 \\ - & 7 & 0 & 0 \\ \hline 1 & 5 & 4 \\ - & 1 & 4 & 0 \\ \hline 1 & 4 \\ - & 1 & 4 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 100 \times 7 \\ \hline 20 \times 7 \\ \hline 2 \times 7 \end{array}$$

5

1	x	7	=	7
2	x	7	=	14
5	x	7	=	35
10	x	7	=	70

1	0	x	7	=	70
2	0	x	7	=	140
5	0	x	7	=	350
10	0	x	7	=	700

$$755 \div 6$$

$$\begin{array}{r}
 & & & \text{r.5} \\
 & & & \hline
 & & & 100 \times 6 \\
 & & & \hline
 & & & 100 \times 6 \\
 & & & \hline
 & & & 5 \times 6 \\
 & & & \hline
 & & & 5
 \end{array}$$

6

6	6	2	0
=	=	=	=
6	6	6	6
x	x	x	x
1	2	5	0

6	0	0	0	0
6	2	0	0	0
=	1	3	0	6
6	6	6	6	6
x	x	x	x	x
1	0	2	0	5
1	0	0	0	0
				1

$$125 \times 6 + 5 = 755$$
$$755 \div 6 = 125\text{r}.5$$
$$755 - 125 = 630$$
$$630 \div 5 = 126$$

7

$$972 \div 36$$

$$\begin{array}{r}
 & 2 & 7 \\
 36 & \overline{)9} & 7 & 2 \\
 - & 7 & 2 & 0 \\
 \hline
 & 2 & 5 & 2 \\
 & - & 1 & 8 & 0 \\
 \hline
 & & 7 & 2 \\
 & - & 7 & 2 \\
 \hline
 & & 0
 \end{array}
 \quad
 \begin{array}{r}
 20 \times 36 \\
 \hline
 5 \times 36 \\
 \hline
 972
 \end{array}$$

1	x	3	6	=	3	6
2	x	3	6	=	7	2
5	x	3	6	=	1	8
1	0	x	3	6	=	3

1	0	x	3	6	=	3	6	0
2	0	x	3	6	=	7	2	0
5	0	x	3	6	=	1	8	0
1	0	0	x	3	6	=	3	6

$$972 \div 36 = 27$$

$$27 \times 36 = 972$$

$$36 \times 27 = 972$$

$$972 \div 27 = 36$$

$$561 \div 43$$

$$\begin{array}{r}
 & & 1 & 3 & r.2 \\
 & & \hline
 4 & 3 & | & 5 & 6 & 1 & \\
 & - & 4 & 3 & 0 & \hline
 & & 1 & 3 & 1 & \\
 & & - & 8 & 6 & \hline
 & & & 4 & 5 & \\
 & & - & 4 & 3 & \hline
 & & & & 2 &
 \end{array}$$

1	X	4	3	=	4	6	6	5	0
2	X	4	3	=	8	1	5	3	3
5	X	4	3	=	2	4	3	4	3
0	X	4	3	=	4	3	0	1	1

$$561 \div 43 = 13\text{r}.2$$

$$87.5 \div 7$$

$$\begin{array}{r}
 1 \ 2 \ . \ 5 \\
 7 \overline{)8 \ 7 \ . \ 5} \\
 -7 \ 0 \ . \ 0 \\
 \hline
 1 \ 7 \ . \ 5 \\
 -1 \ 4 \ . \ 0 \\
 \hline
 3 \ . \ 5 \\
 -3 \ . \ 5 \\
 \hline
 0
 \end{array}
 \quad
 \begin{array}{r}
 0.5 \times 43 \\
 \hline
 0
 \end{array}$$

1	x	7	=	7
2	x	7	=	14
5	x	7	=	35
10	x	7	=	70

0	.	1	x	7	=	0	.	7
0	.	2	x	7	=	1	.	4
0	.	5	x	7	=	3	.	5
1	.	0	x	7	=	7	.	0

$$87.5 \div 7 = 12.5$$

$$87.5 \div 12.5 = 7$$

$$12.5 \times 7 = 87.5$$

$$7 \times 12.5 = 87.5$$



multiplication

1

$$38 \times 7 = (30 \times 7) + (8 \times 7)$$

$$\begin{aligned}10 \times 7 &= 70 \\10 \times 7 &= 70 \\10 \times 7 &= 70\end{aligned}$$

$$8 \times 7 = 56$$

$$\begin{aligned}70 + 70 + 70 + 56 &= 210 + 56 \\&= 266\end{aligned}$$

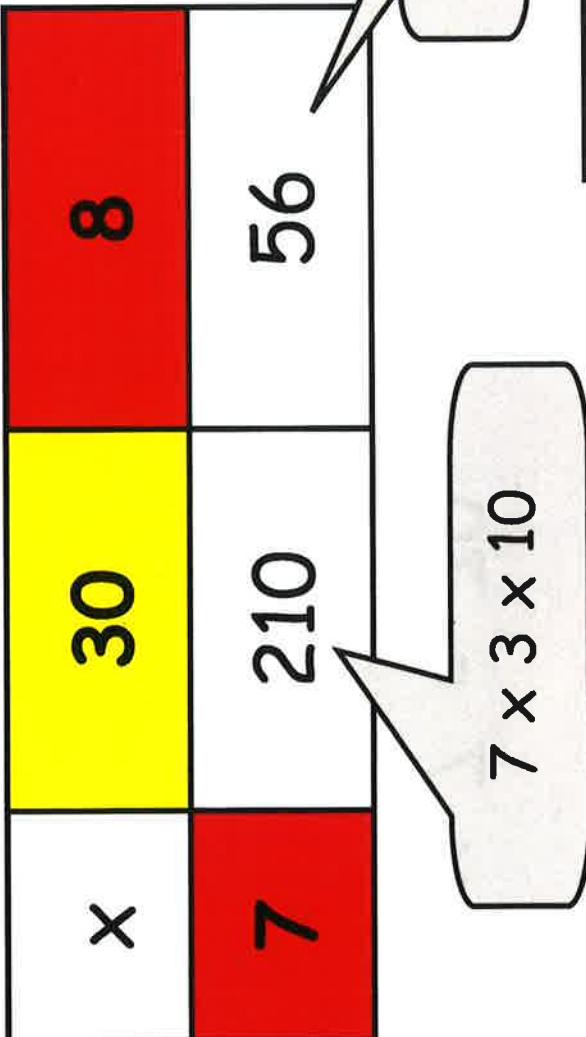
$$38 \times 7 = 266$$

$$266 \div 38 = 7$$

$$266 \div 7 = 38$$

$$38 \times 7$$

3 × 10



2

$$\begin{array}{r} 210 \\ + 56 \\ \hline 266 \end{array}$$

$$7 \times 8$$

$$38 \times 7 = 266$$

$$7 \times 38 = 266$$

$$266 \div 38 = 7$$

$$266 \div 7 = 38$$

$$38 \times 7$$

3

3a
30 times 7 is 210,
add the 'carried'
50 is 260

3b

60 from the 260

4

200 from the
260

2b
'carried' 50 from
the 56



$$346 \times 9$$

3×100

or

$3 \times 10 \times 10$

4×10

$$\begin{array}{r}
 346 \\
 \times 9 \\
 \hline
 54
 \end{array}$$

$$\begin{array}{r}
 346 \\
 \times 9 \\
 \hline
 360
 \end{array}$$

$$\begin{array}{r}
 346 \\
 \times 9 \\
 \hline
 2700
 \end{array}$$

$$\begin{array}{r}
 346 \\
 \times 9 \\
 \hline
 3114
 \end{array}$$

\times	300	40	6
9	2700	360	54

300

40

6

2700

360

54

$9 \times 3 \times 100$

or

$9 \times 3 \times 10 \times 10$

9×6

$9 \times 4 \times 10$

$346 \times 9 = 3114$

$9 \times 346 = 3114$

$3114 \div 346 = 9$

$3114 \div 9 = 346$

4

$$346 \times 9$$

40 times 9 is 360
plus the 'carried'
50 is 410

5

6 times 9 is 54

1

300 times 9 is
2700, plus the
'carried' 400 is
3100

4

3000 from
the 3100

5

'carried' 400
from the 410

3b

'carried' 50
from the 54

2b

4 from the 54

2a

$$\begin{array}{r} 346 \\ \times 9 \\ \hline 3114 \end{array}$$

$$56 \times 27$$

2 × 10

			6
		20	7
x	50	1000	350
	20	120	42
	5 × 10 × 10	5 × 7 × 10	5 × 6 × 7

5 × 2 × 10
or
5 × 10 × 2 × 10

6 × 2 × 10

6 × 7

$$\begin{array}{r}
 & 56 \\
 \times & 27 \\
 \hline
 1512
 \end{array}$$

6

5 × 10 × 7

$$\begin{array}{r}
 1512 \div 56 = 27 \\
 56 \times 27 = 1512 \\
 27 \times 56 = 1512
 \end{array}$$

$$1512 \div 27 = 56$$

7

B

A

$$56 \times 27 = (56 \times 20) + (56 \times 7)$$

A $56 \times 20 = (56 \times 10) + (56 \times 10)$
 = $560 + 560 = 1120$

B $56 \times 7 = (50 \times 7) + (6 \times 7)$
 = $(5 \times 10 \times 7) + (6 \times 7)$
 = $(5 \times 7 \times 10) + (6 \times 7)$
 = $350 + 42 = 392$

$$\rightarrow 56 \times 27 = 1120 + 392 = 1512$$

8

$$56 \times 27$$

50 times 7 is 350,
plus the 'carried'
40 is 390

3a

6 times 20
is 120

4a

50 times 20 is
1000, plus the
'carried' 100 is
1100

5a

6 times 7 is 42

1

5	6	2	7
X			
3	9	2	
1	1	2	0
1	5	1	2

'carried' 40
from the 42

2b

'carried' 100
from the 120

4b

300 from
the 390

1000 from the 1100

3b

5b

9

$$235 \times 24$$

2 × 100
or
2 × 10 × 10
2 × 10

2 × 100
or
2 × 10 × 10
3 × 10

	X	200	30	5
	20	4000	600	100
			120	20
	4	800		

2 × 10 × 2 × 10 × 10
or
2 × 2 × 10 × 10 × 10

2 × 10 × 3 × 10
or
2 × 3 × 10 × 10

4 × 5
4 × 3 × 10

$$\begin{array}{r}
 & 2 & 3 & 5 \\
 \times & 2 & 4 \\
 \hline
 & 1 & 2 & 0
 \end{array}$$

2 × 10 × 5
or
2 × 5 × 10

8 0 0
1 0 0
6 0 0

4 0 0 0
5 6 4 0

$$235 \times 24 = 5640$$

$$5640 \div 24 = 235$$

$$235 \times 24$$

30 times 4 is 120,
plus the 'carried'
adio'r 20 is 140

200 times 4 is 800,
plus the 'carried'
100 is 900

$$\begin{array}{r}
 & 5 & 4 \\
 & 2 & 3 & 2 & 4 \\
 \times & 9 & 4 & 1 & 2 \\
 \hline
 & 4 & 7 & 0 & 0 \\
 & 5 & 6 & 4 & 0
 \end{array}$$

3a

10

4

1

5 times 4 is 20

2a

0 from the 20

6

2b

'carried' 20
from the 20

7

3b

100 'carried'
from the 140

5b

'carried' 100
from the 100

5a

5 times 20
yw 100

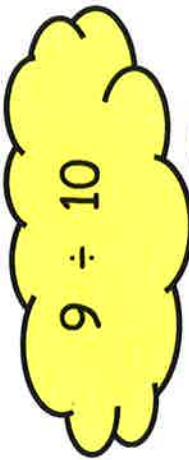
6

30 times 20 is 600,
plus the 'carried'
100 is 700

7

200 times 20
is 4000

$$4.9 \times 3$$



x	4	0.9
3	12	2.7

$$3 \times 4$$

$$\begin{array}{r} 4.9 \\ \times 3 \\ \hline 14.7 \end{array}$$

$$(3 \times 9) \div 10$$

$$4.9 \times 3 = 14.7$$

$$3 \times 4.9 = 14.7$$

$$14.7 \div 4.9 = 3$$

$$14.7 \div 3 = 4.9$$

$$4.9 \times 3$$

12

3a 4 times 3 is 12,
plus the 'carried'
2 is 14

3a

3b 4 from the 14

3b

3c 10 from the 14

3c

1 0.9 times
3 is 2.7

1

4 . 9

3

X

1 4 . 7

2

2b 'carried' 2
from the 2.7

2b

2a

0.7 from
the 2.7

13

$$5.82 \times 3$$

$8 \div 10$

$2 \div 100$
or
 $2 \div 10 \div 10$

\times	5	0.8	0.02
3	15	2.4	0.06

$$\begin{array}{r} 5.82 \\ \times 3 \\ \hline 17.46 \end{array}$$

$(3 \times 2) \div 100$
or
 $(3 \times 2) \div 10 \div 10$

$$5.82 \times 3 = 17.46$$

$$3 \times 5.82 = 17.46$$

$$17.46 \div 3 = 5.82$$

14

$$5.82 \times 3$$

0.8 times 3 is 2.4

5 times 3 is 15,
plus the 'carried'
2 is 17

3

1a

0.02 times 3
is 0.06

X

$$\begin{array}{r} & 3 \\ \times & 17.46 \\ \hline & 2 \end{array}$$

1b

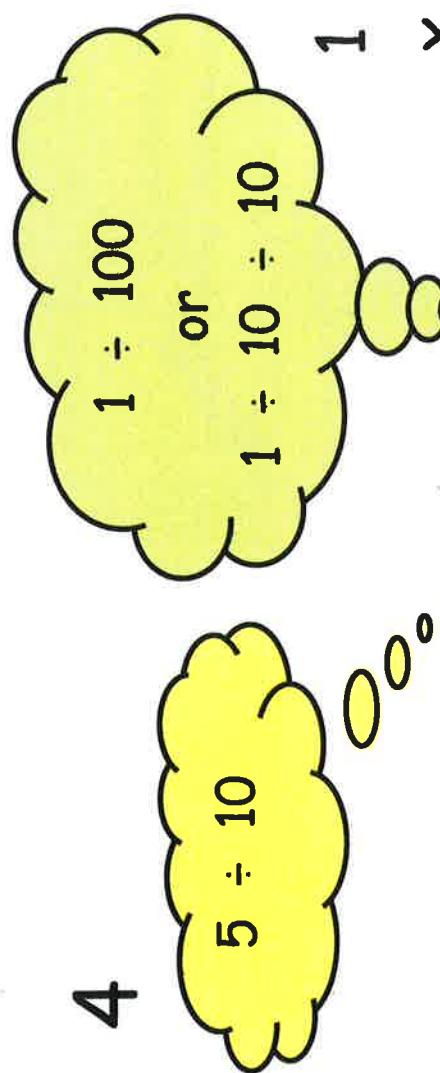
0.06 from
the 0.06

2b

'carried' 2
from the 2.4

15

$$12.51 \times 4$$



$$\begin{array}{r}
 & 1 & 2 & . & 5 & 1 \\
 \times & & & & & 4 \\
 \hline
 & 0 & . & 0 & 4
 \end{array}$$

x	10	2	0.5	0.01
4	40	8	2.0	0.04

$$\begin{array}{r}
 (4 \times 1) \div 100 \\
 \text{or} \\
 (4 \times 1) \div 10 \div 10
 \end{array}$$

$$\begin{array}{r}
 4 \times 2 \\
 (4 \times 5) \div 10
 \end{array}$$

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

$$12.51 \times 4 = 50.04$$

$$4 \times 12.51 = 50.04$$

$$\begin{array}{r}
 50.04 \div 12.51 = 4 \\
 50.04 \div 4 = 12.51
 \end{array}$$

$$12.51 \times 4$$

$$\begin{array}{r}
 & 5 & 1 \\
 & . & 4 \\
 \times & 1 & 2 \\
 \hline
 & 1 & 2 & 0 \\
 & & & 4 \\
 \hline
 & 5 & 0 & . & 0 & 4 \\
 & & & 2 & \\
 \hline
 & 1 & 1 & 2 &
 \end{array}$$

0.01 times 4
is 0.04

0.04 from
the 0.04

0.5 times 4 is 2

2a

2 times 4 is 8,
plus the 'carried'
2 is 10

3a

10 times 4 is 40,
plus the 'carried'
10 is 50

4

2b

'carried' 2
from the 2

'carried' 10
from the 10

3b