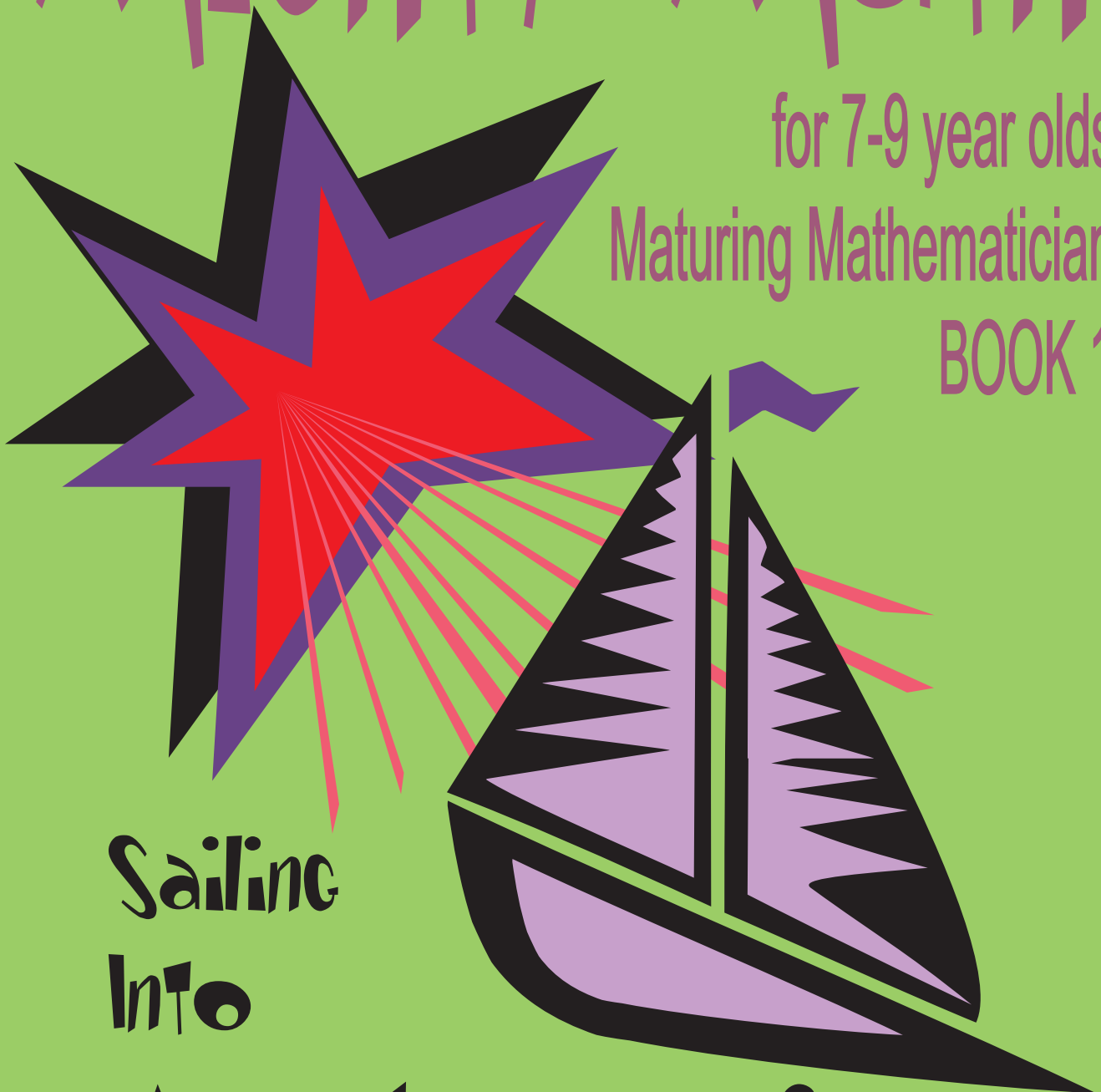
Mighty Math

for 7-9 year olds
Maturing Mathematician
BOOK 1



Sailing Into Mathematics

Kim Freeman

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BOOK 1

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Author, Kim Freeman

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HOW CAN YOU HELP YOUR CHILD IN MATHEMATICS?

Mastering mathematics is essential for future opportunities in school and careers. Your children need to reach a certain level of competency in mathematics to be able to progress in many advanced high-school courses, and then to have a wider variety of career choices. Doing mathematics homework reinforces all the skills being learnt in class. The more time children spend practising their skills, the sooner they will develop confidence in their abilities. However don't just give this book to your children and expect them to learn by themselves. Any activity is fun when done with others or when there is reinforcement and encouragement. Praise and attention to what they are doing will help towards getting them to sit down to learn next time.

This green Mighty Maths series, Maturing Mathematician, reinforces and continues on with the work covered in the previous Mighty Maths series (Beginning Mathematician, Developing Mathematician and Advancing Mathematician). The work is progressively more challenging and new concepts are introduced in each book at various points. To help reinforce mathematical skills as well as to maintain motivation, the same type of question is asked in different ways and contexts.

This specific book covers Sudoku, strategies for multiplication, number patterns, and counting up to 1000, adding and subtracting strategies, fractions and money.

For best results:

- Make sure your children understand the different concepts. Mathematics is not just a meaningless mental exercise of memorizing rules and doing rote drills. Making mathematics part of their daily lives will make it more meaningful. For example, ask them to space new plants a certain distance apart in the garden, double a recipe or pay bills in stores.

- Help them to master the basic facts and learn the vocabulary of mathematics. By now, your children should be competent in the multiplication tables, and simple arithmetic. Having these basic skills and being able to understand the vocabulary means that they can move up to a higher level of learning. If they have not mastered these, use flash cards and drills to help them learn.

- Encourage your children to write neatly. Many errors in solving mathematics problems can be traced back to sloppy number writing.

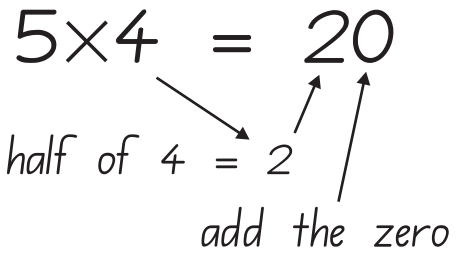
- Provide help immediately when needed. Mathematics is a subject in which everything builds upon what has been previously learned. For example, a failure to understand fractions and decimals will lead to problems with percentages.

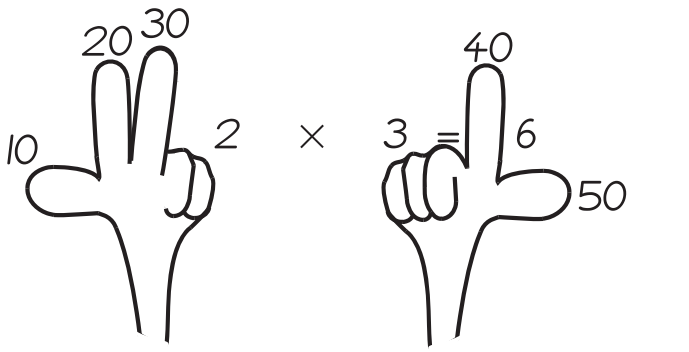
We hope that you and your children have fun with Mighty Maths. At Mahobe, we certainly had fun putting it all together for you.

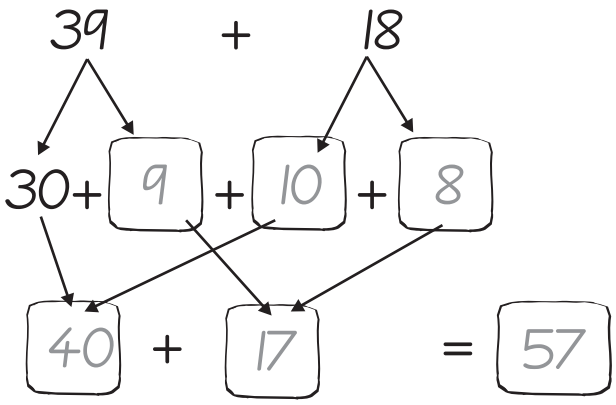
What is found in this book?

In this book you look at:

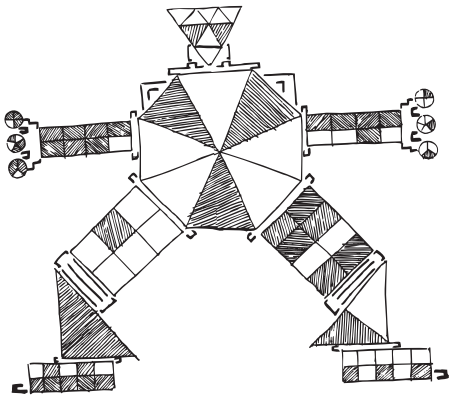
Methods of Multiplication, Addition and Subtraction.







Fractions



Money

=

NUMBERS and PATTERNS

Complete the pattern and the rule.

2, 4, 6, ..., ..., ..., ..., ..., ..., ..., ...

Rule = ...

5, 10, 15, ..., ..., ..., ..., ..., ..., ..., ...

Rule = ...

100, 99, 98, ..., ..., ..., ..., ..., ..., ...

Rule = ...

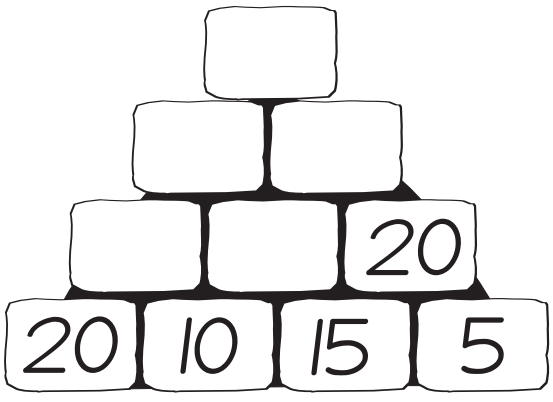
100, 90, 80, ..., ..., ..., ..., ..., ..., ...

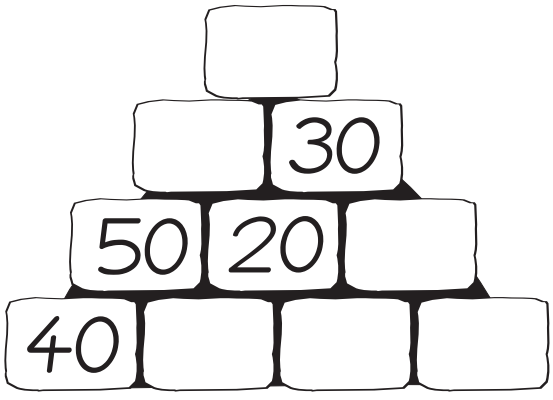
Rule = ...

1, 2, 4, 8, ..., ..., ..., ..., ..., ..., ...

Rule = ...

The sum of any two adjacent numbers is the number directly above. Fill in all the missing numbers





SUDOKU

The challenge of Sudoko is to fill the grid with numbers. The big grid has the dimensions 9 x 9. This is separated into 9 smaller boards of 3 x 3. Here are the rules:

1. You can only use the numbers 1 to 9.

2. Within each 3 x 3 grid you must place ALL the numbers from 1 - 9.

3. You cannot use the same number twice in any row or column. This means ALL the numbers from 1 - 9 must appear on each row and each column.

Now complete the Sudoku challenge.

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

SUDOKU

Complete the Sudoku challenges.

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

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

LEARNING THE 2s

To multiply by 2: Double the number.

4×2 = 4 + 4 = 8

5×2 = ... + ... = ...

12×2 = ... + ... = ...

15×2 = ... + ... = ...

18×2 = ... + ... = ...

23×2= .....
+ .....
= .....

34×2= .....
+ .....
= .....

47×2= .....
+ .....
= .....

55×2= .....
+ .....
= .....

LEARNING THE 4s

To multiply by 4 : Add the number 4 times.
or Double the number, then double again.

4×12 12 doubled is 24
24 doubled is 48
$\therefore 4 \times 12 = 48$

$4 \times 3 =$ ..... $4 \times 22 =$ .....

$4 \times 7 =$ ..... $4 \times 25 =$ .....

$4 \times 9 =$ ..... $4 \times 32 =$ .....

$4 \times 13 =$ ..... $4 \times 34 =$ .....

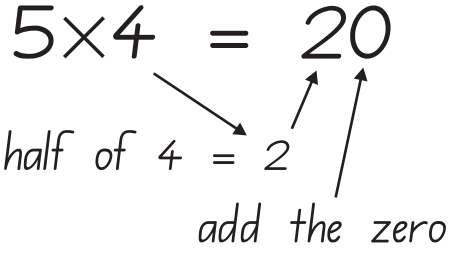
$4 \times 15 =$ ..... $4 \times 47 =$ .....

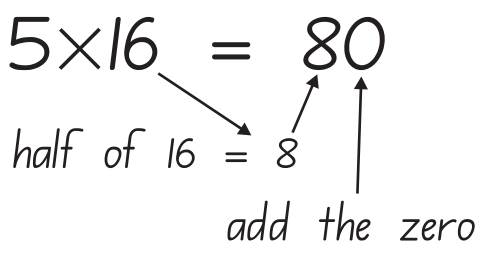
$4 \times 18 =$ ..... $4 \times 55 =$ .....

LEARNING THE 5s

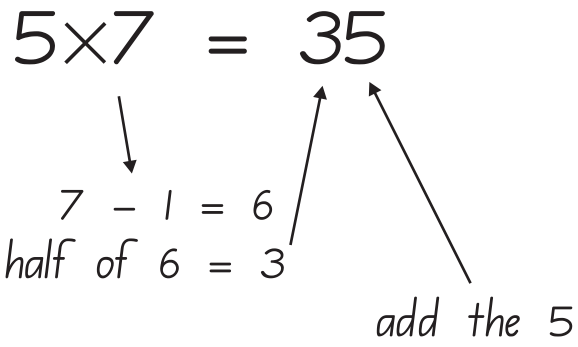
To multiply by 5:

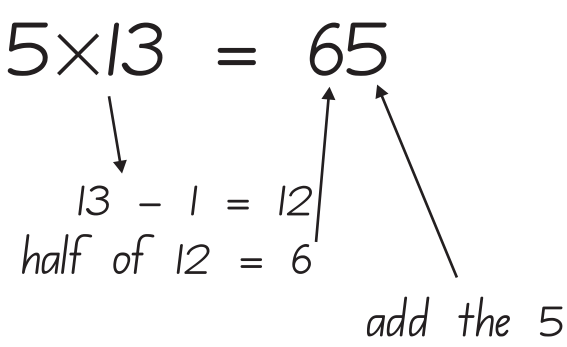
1. If the number is even, take half the number and put a zero after it.





2. If the number is odd, subtract 1 from the number, halve it Then put a five after it.





Even Numbers		Odd Numbers	
$5 \times 6 =$	.....	$5 \times 9 =$	.....
$5 \times 8 =$	.....	$5 \times 11 =$	.....
$5 \times 14 =$	.....	$5 \times 15 =$	.....
$5 \times 18 =$	.....	$5 \times 17 =$	.....
$5 \times 20 =$	.....	$5 \times 19 =$	.....
$5 \times 22 =$	.....	$5 \times 21 =$	.....
$5 \times 26 =$	.....	$5 \times 23 =$	.....
$5 \times 28 =$	.....	$5 \times 25 =$	.....
$5 \times 30 =$	.....	$5 \times 31 =$	.....

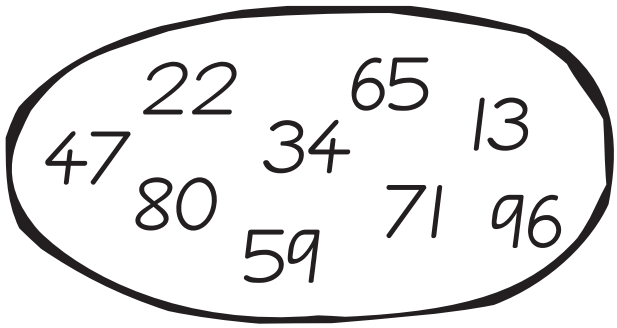
FINDING MULTIPLES

When you multiply a number by another the result is a multiple.
e.g. Multiplying 3 × 5 = 15 therefore 15 is a multiple of 3.

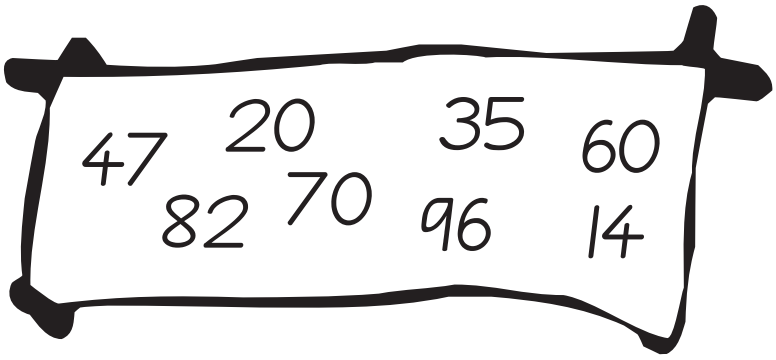
The first few multiples of the 3 are 3, 6, 9, 12, 15, 18, ...

Find each of the multiples.

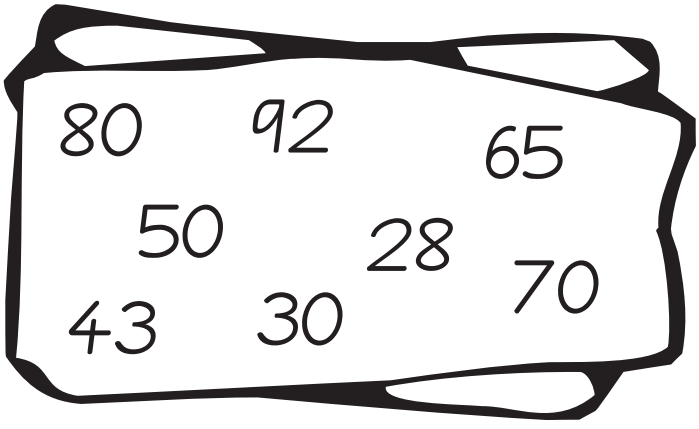
Circle each multiple of 2.



Circle each multiple of 5.



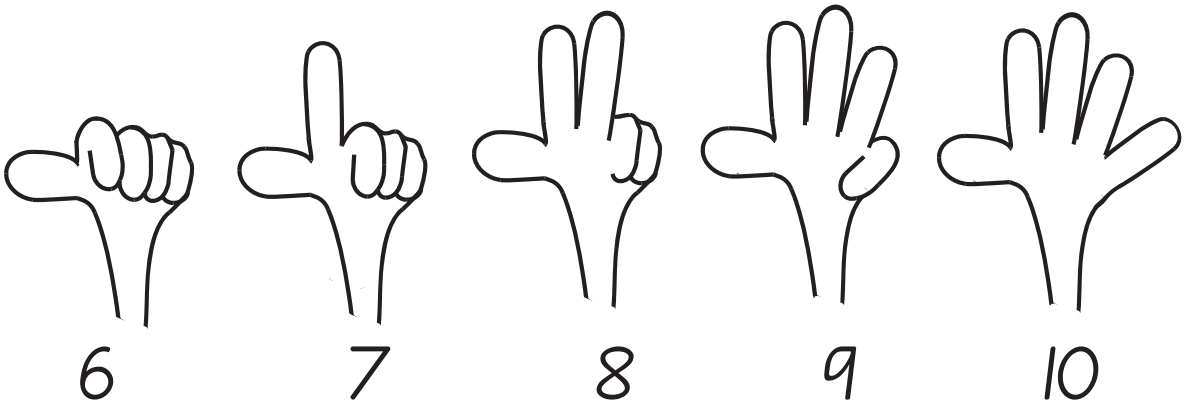
Circle each multiple of 10.



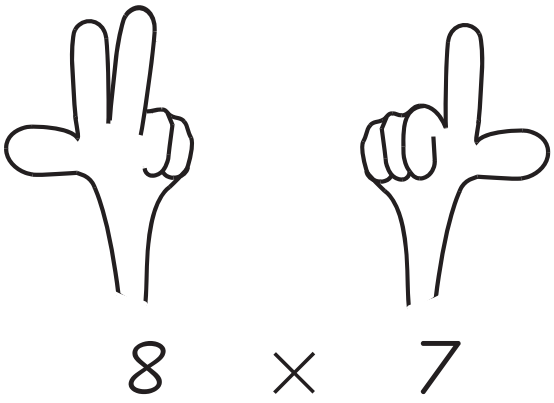
FINGER MULTIPLICATION

We all carry a calculator around with us that is simple to use and easy to learn. We can all use our fingers to learn the multiplication tables for the hardest number combinations - 6, 7, 8, 9, and 10.

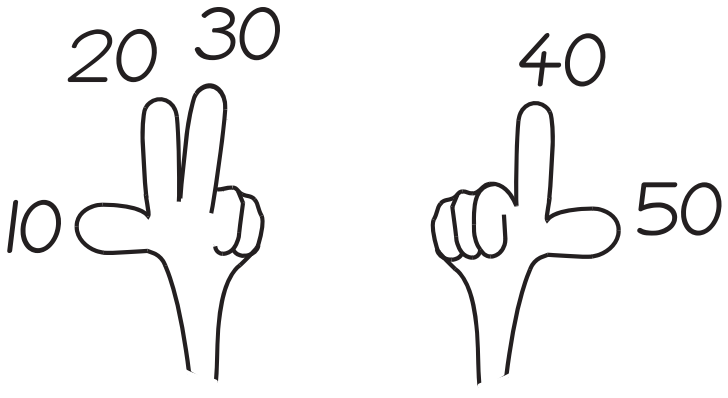
Step ONE: Remember these finger values.



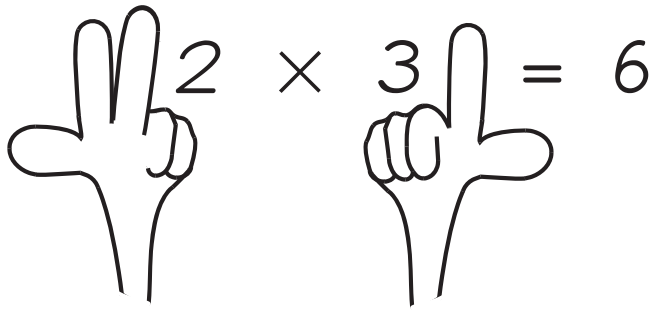
Step TWO: Now try multiplying 8 × 7 =



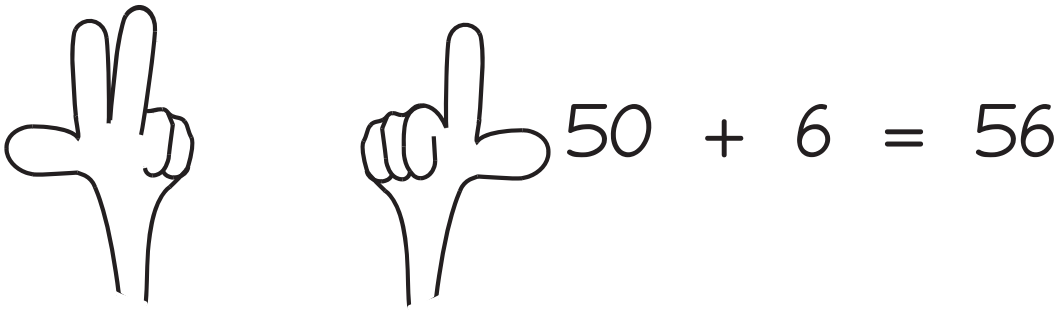
Step THREE: Count the extended fingers - these are 10s



Step FOUR: Multiply the folded fingers.

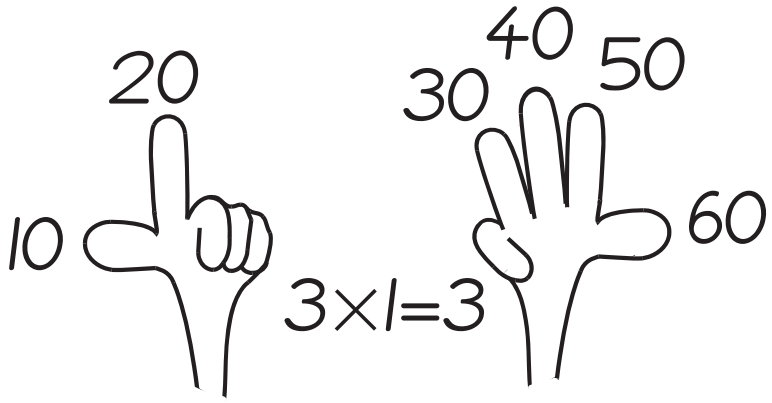


Step FIVE: Finally, add the two numbers together.



You have now found the answer. 8 × 7 = 56

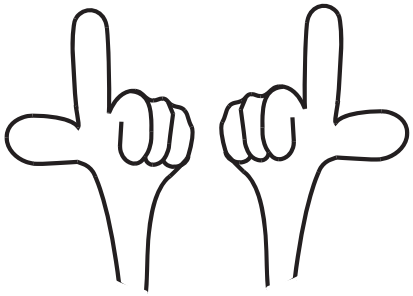
7 × 9



7 × 9 = 63

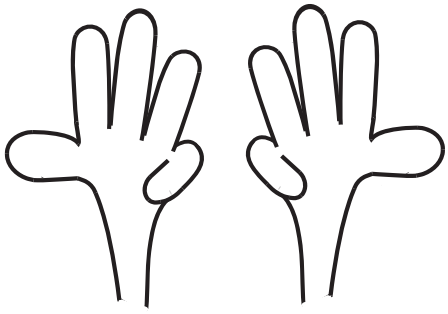
Use your finger calculator to multiply the following.

$7 \times 7 =$ .....

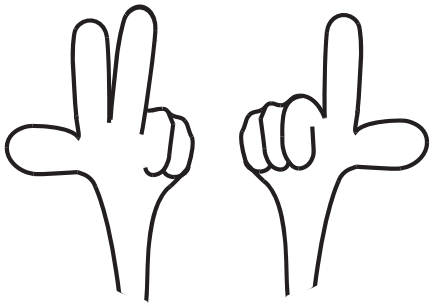


$6 \times 8 =$ .....

$9 \times 9 =$ .....



$8 \times 7 =$ .....



$6 \times 10 =$ .....

Use your finger calculator to multiply the following.

$7 \times 8 =$	$7 \times 10 =$ .....
$9 \times 8 =$	$9 \times 6 =$ .....
$8 \times 8 =$	$8 \times 6 =$ .....
$9 \times 7 =$	$6 \times 9 =$ .....
$9 \times 10 =$	$6 \times 6 =$ .....
$8 \times 10 =$	$7 \times 9 =$ .....
$8 \times 9 =$	$6 \times 7 =$ .....
$9 \times 9 =$	$7 \times 6 =$ .....

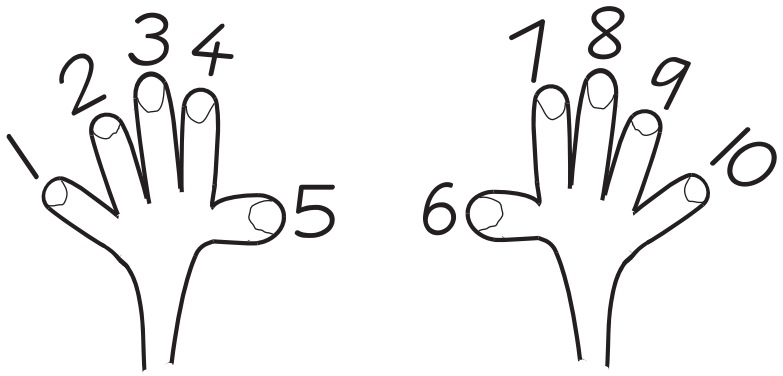
MORE MULTIPLICATION

Multiplication by 9: Method 1

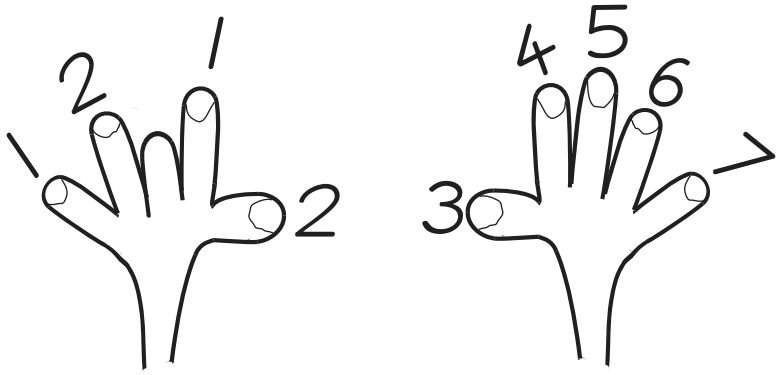
This method is called fingers multiplication by 9.

The previous finger multiplication works for combinations of 6, 7, 8, 9 and 10. This method only works for the 9 times tables.

Step ONE: Put your two hands on the table in front of you.
Your fingers can each represent the numbers 1 to 10.



Step TWO: Try multiplying 9 $\times$ 3.
Curl under the finger representing 3.



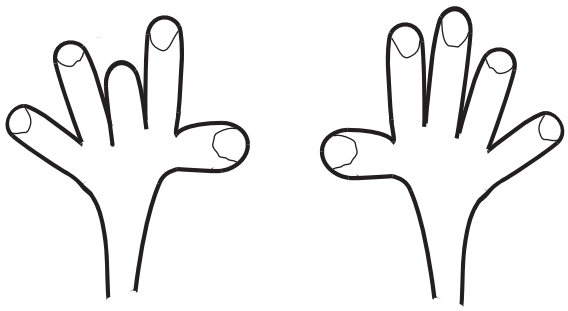
Step THREE: The first digit in the answer is the number of fingers before the curled under finger.
The second digit in the answer is the number of fingers after the curled under finger.

$$9 \times 3 = 27$$

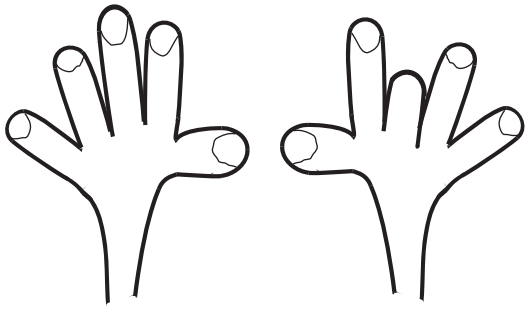
Fingers Multiplication by 9

Use the fingers method to calculate these 9 x multiplications.

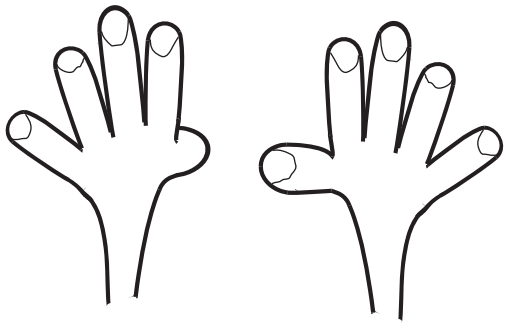
9×3=.....



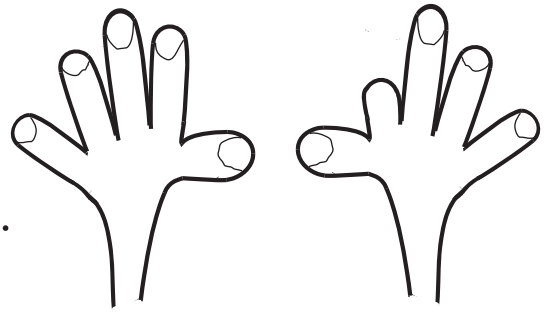
9×8=.....



9×5=.....



9×7=.....



9×2=.....

9×9=.....

9×10=.....

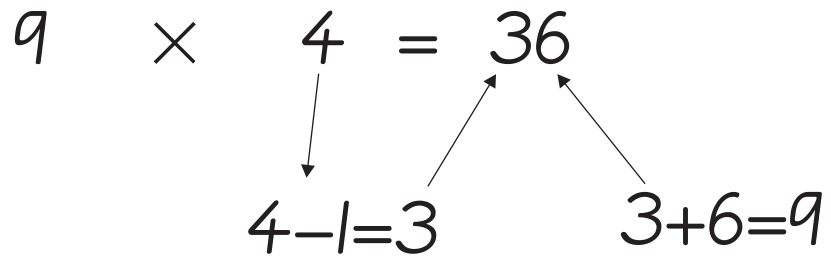
9×6=.....

Multiplication by 9: Method 2

This is called the one less = nine method.

Step ONE: Subtract 1 from the number you are multiplying 9 by.
This is the first digit.

Step TWO: The two digits that make up the answer add to give 9.
Calculate the second digit.

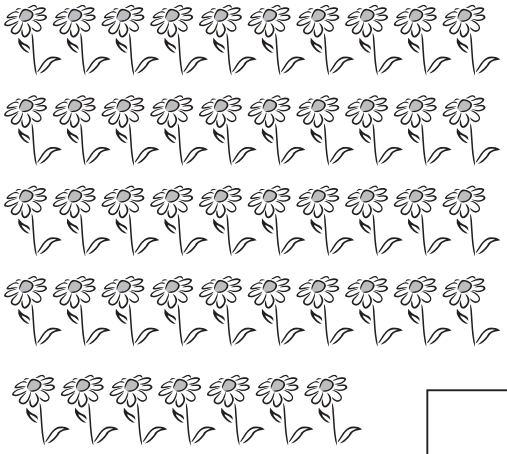


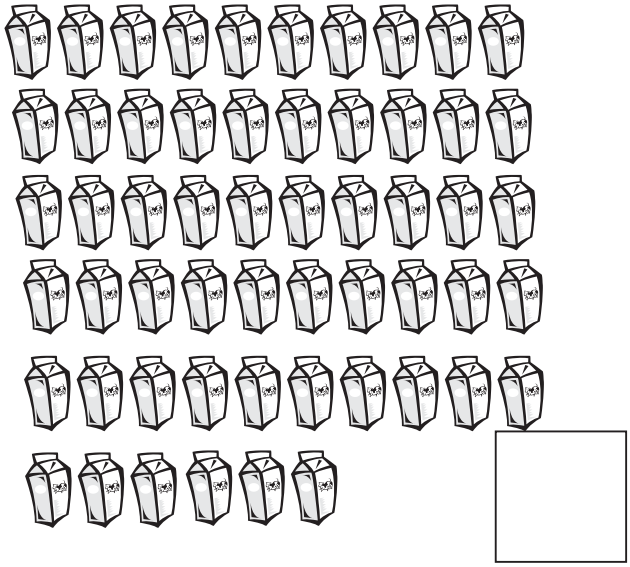
Remember that these methods only work up until 9x10.
Find a calculator and write out the 9 times table up to 30.
Can you see a pattern emerging?

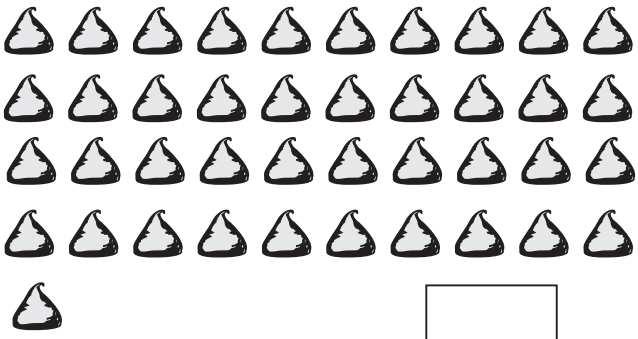
9×3=.....	9×7=.....
9×8=.....	9×2=.....
9×5=.....	9×9=.....
9×10=.....	9×6=.....

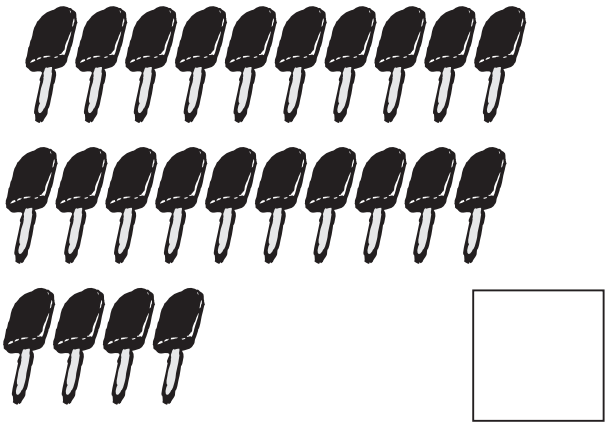
NUMBERS 0 TO 100

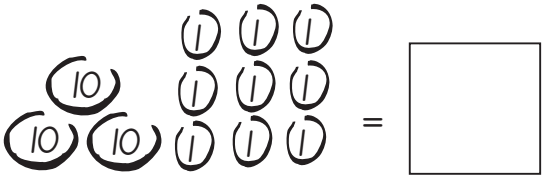
Count and write the correct number in each box.











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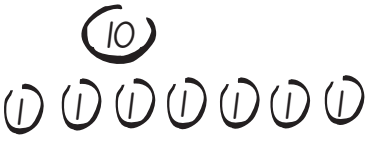

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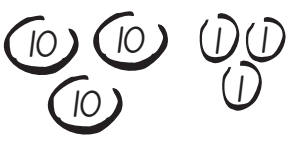

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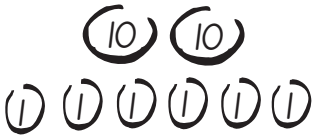

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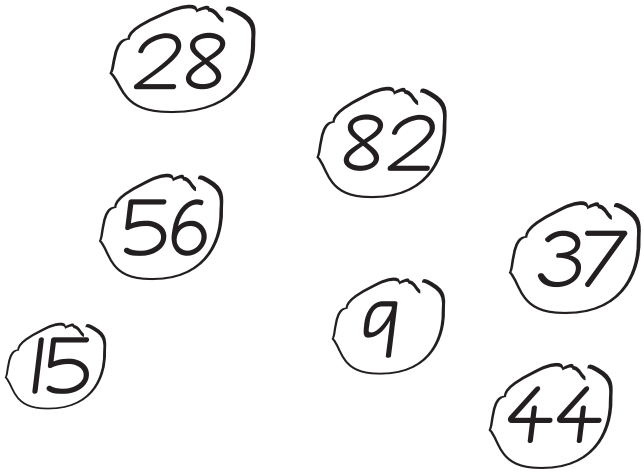
NUMBER RELATIONSHIPS

Complete the tables.

−2		+2
	31	
	41	
	51	
	61	

−5		+5
	22	
	32	
	42	
	52	

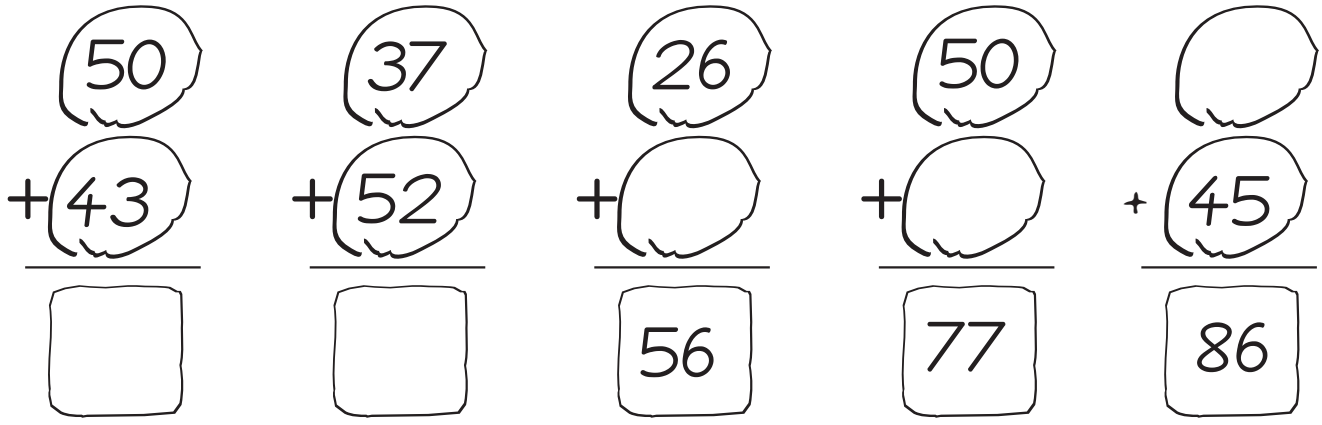


−7		+7
	15	
	25	
	35	
	45	

Put the circled numbers above in order - smallest to biggest

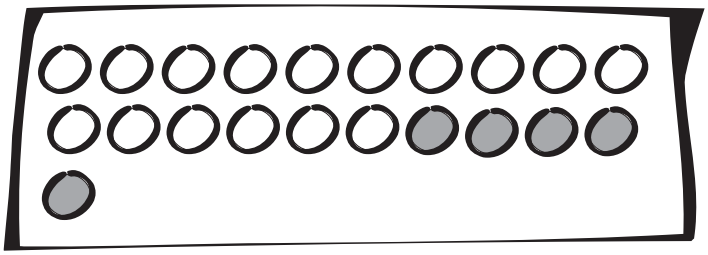
.....

Complete these additions



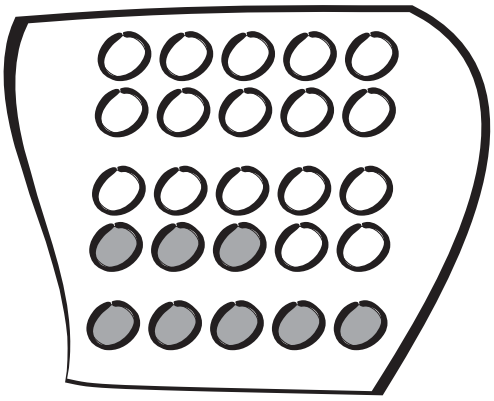
ARITHMETIC

Use the diagrams to complete the sums.



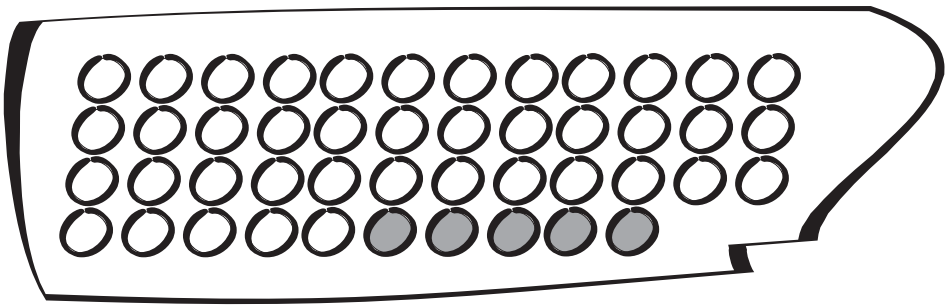
16 + ... = ...

21 − ..... = 16

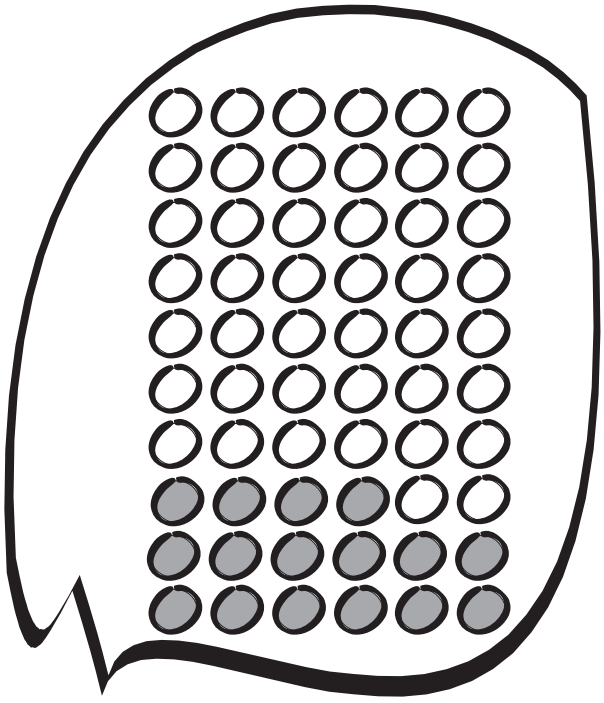


17 + ... = ...

25 − ..... = 17



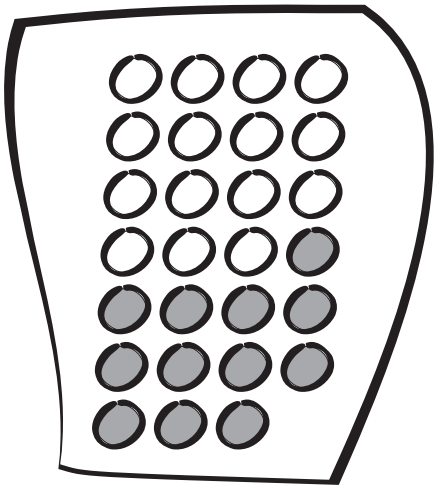
..... + 5 = ...



..... − ..... = 41

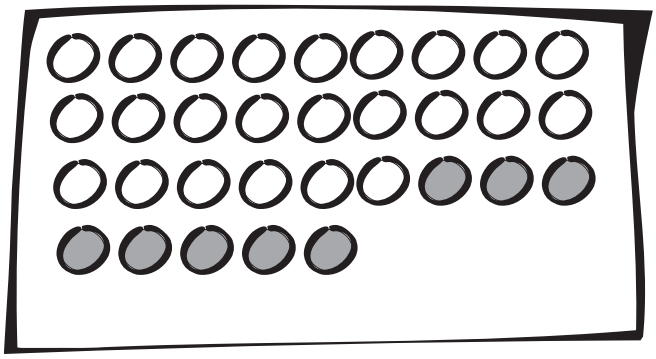
..... + 16 = ...

..... − ..... = ...



15 + ... = ...

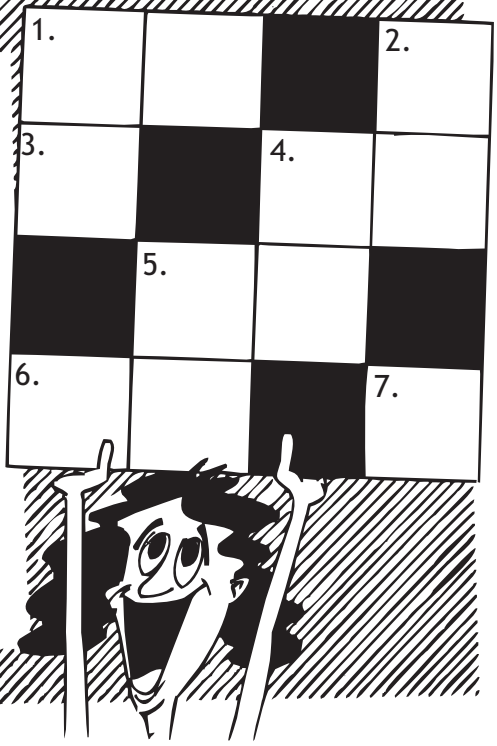
27 − ..... = ...



..... + 8 = ...

..... − ..... = 24

CROSS-NUMBER



ACROSS

1. 5, 10, 15, ..., 25

3. 8, 6, 4, ..., 0

4. 1, 2, 4, 8, ..., 32

5. 10, 20, 30, ...

6. 3, 6, 9, ..., 15

DOWN

1. 100 − 78

2. 100 − 4

4. 100 − 90

5. 100 − 58

7. 100 − 91

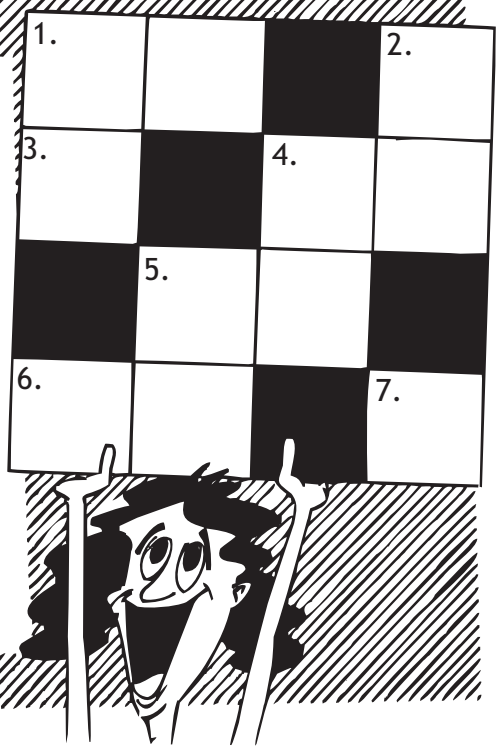
ARITHMETIC

Fill in the missing numbers.

34 + ...= 39	..... + 5= 50	6 + ...= 93
46 + ...= 48	..... + 7= 29	8 + ...= 61
73 + ...= 77	..... + 3= 68	..... + 27= 34

98 − .....= 90	..... − 3= 30
77 − .....= 72	..... − 2= 56
28 − .....= 21	..... − 6= 44

CROSS-NUMBER

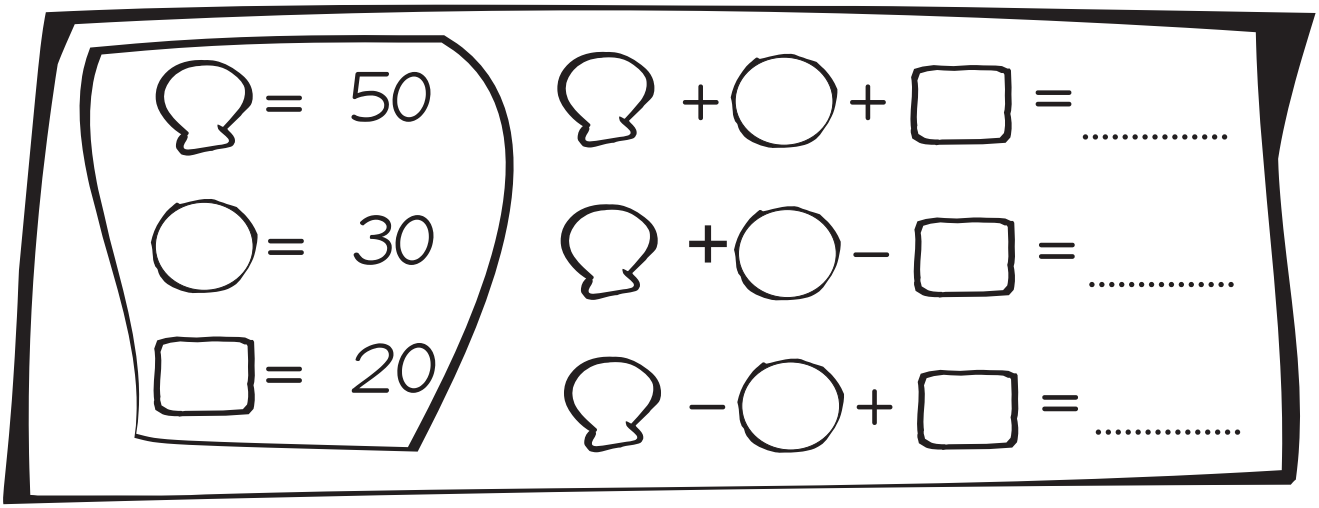


ACROSS

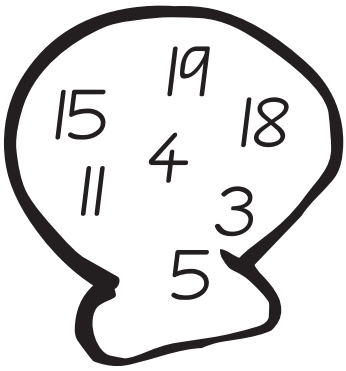
1. 10 + 6
3. 6 + 3
4. 25 + 11 + 2
5. 32 + 52
6. 6 + 16

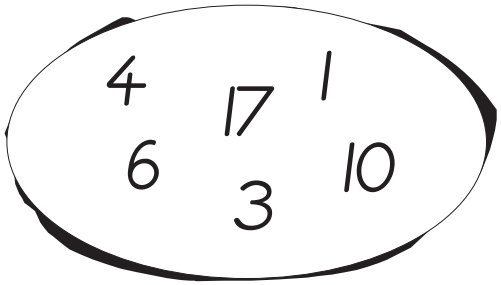
DOWN

1. 20 − 1
2. 32 − 4
4. 40 − 6
5. 87 − 5
7. 12 − 4

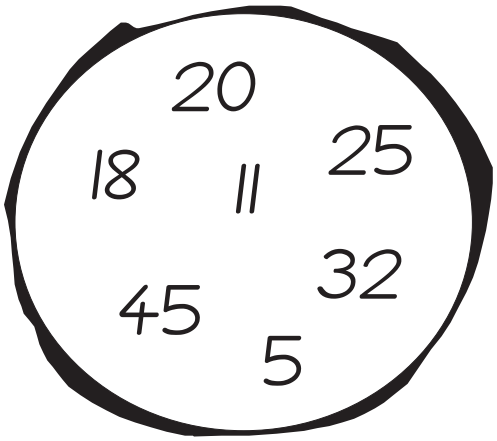


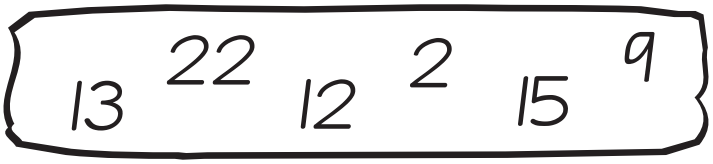
Circle 2 numbers that add up to 20

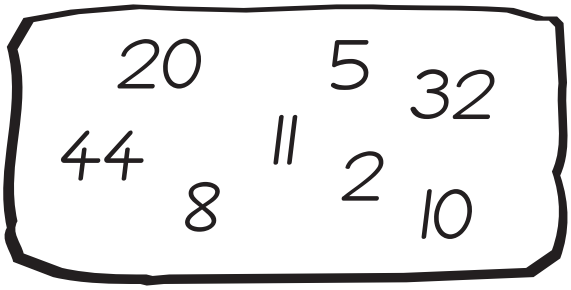




Circle 3 numbers that add up to 50





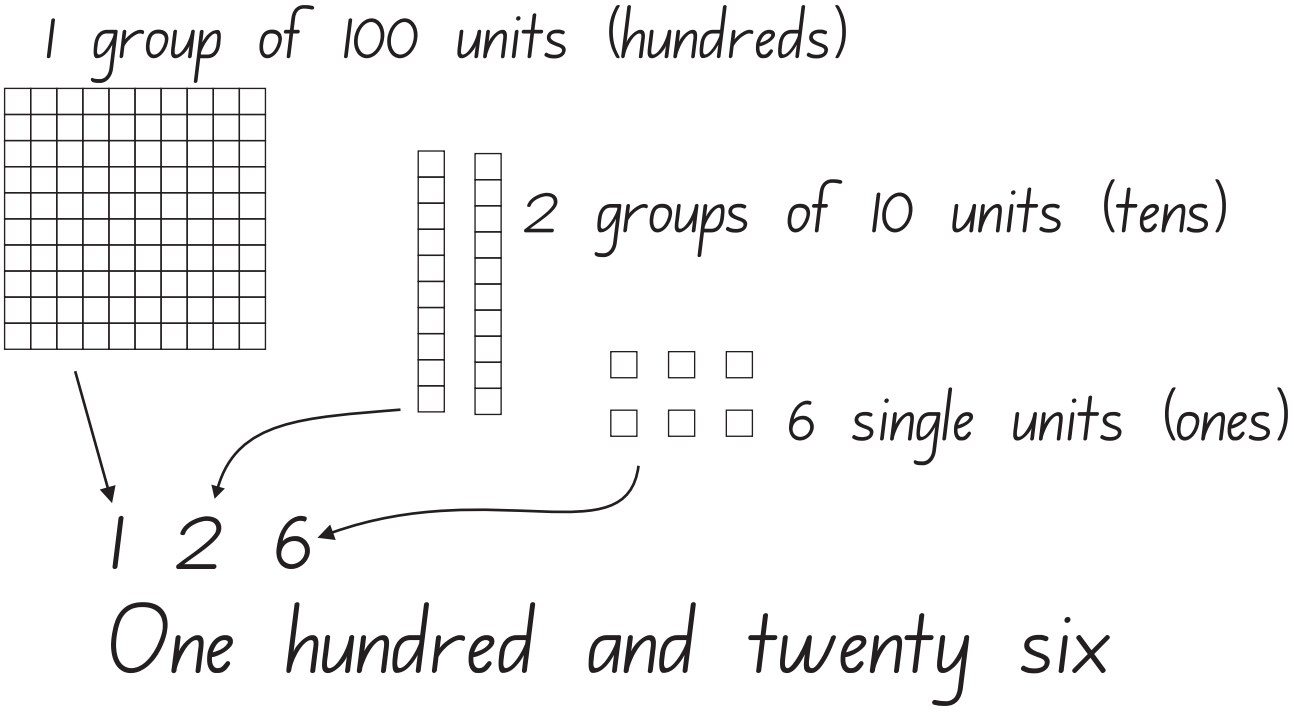


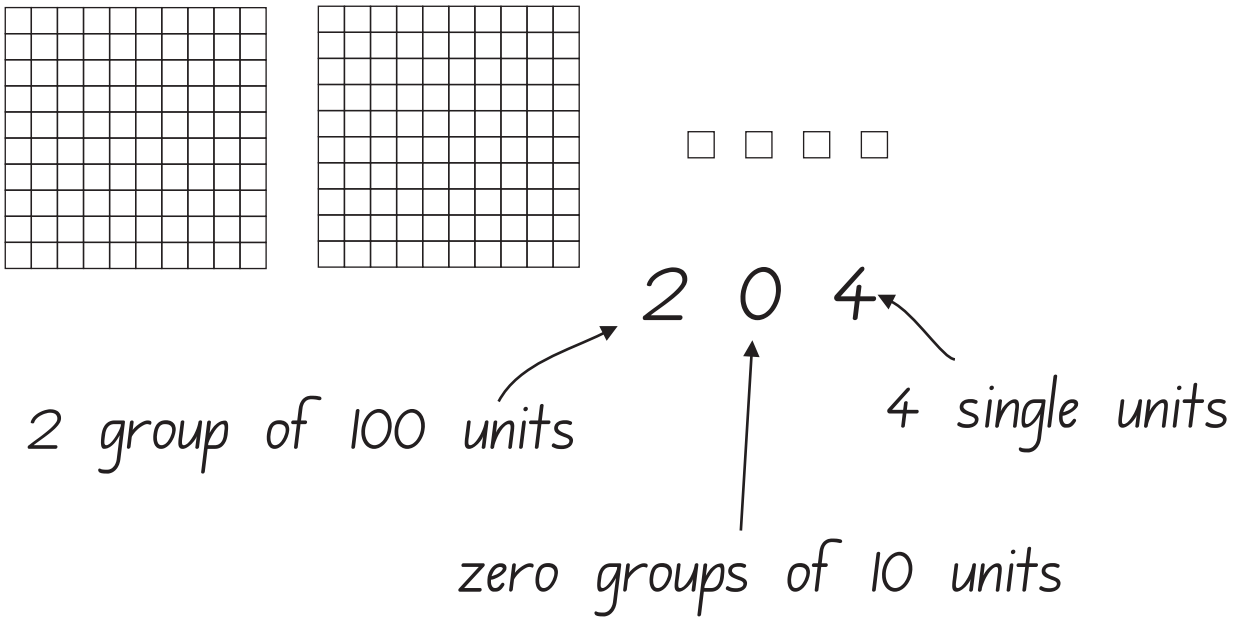
If △ + △ = 50

and ○ + ○ + ○ = 36 then △ + ○ = ...

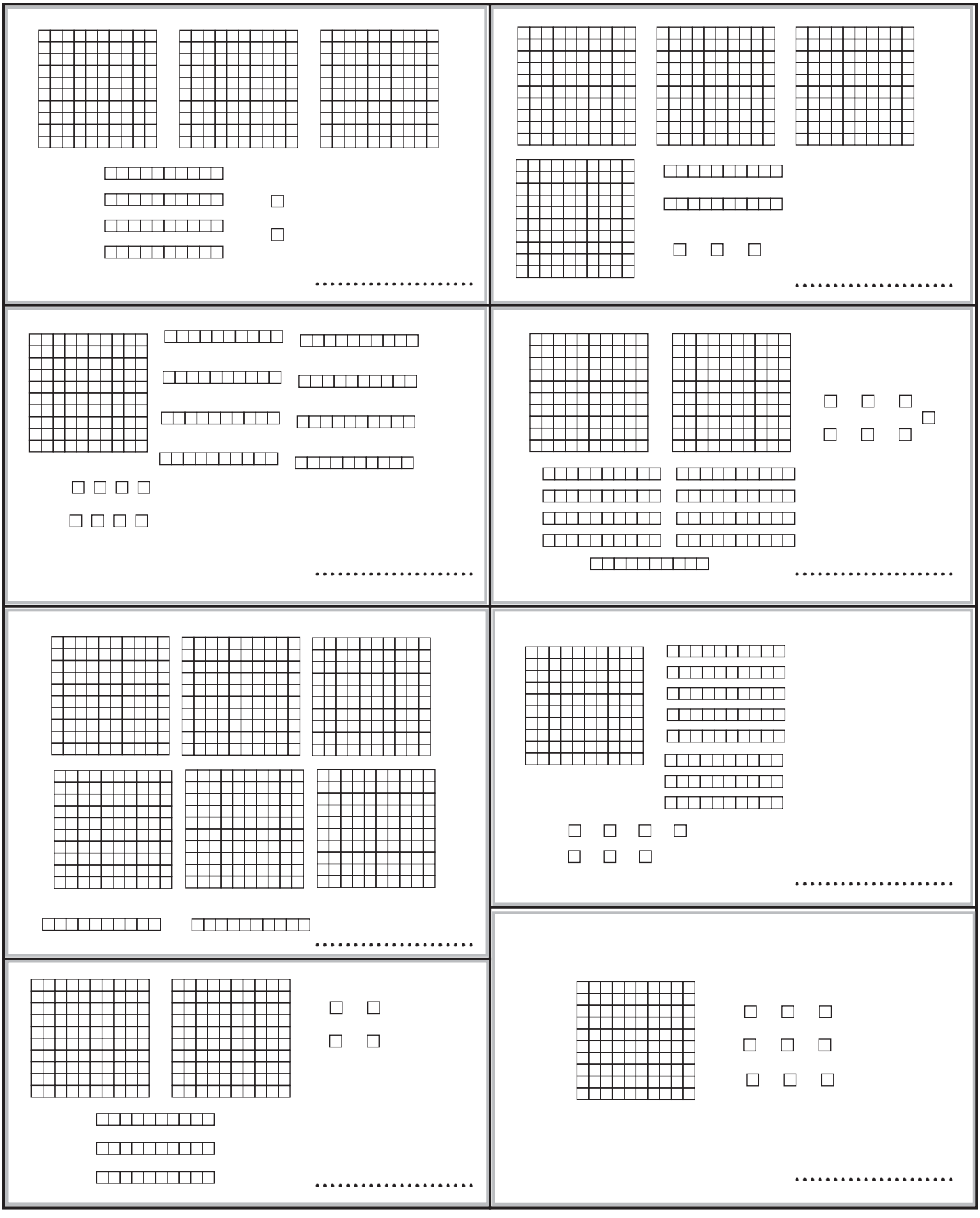
NUMBERS TO 1000

The blocks shown are arranged in 3 different ways - in single units, in groups of ten and groups of one hundred.

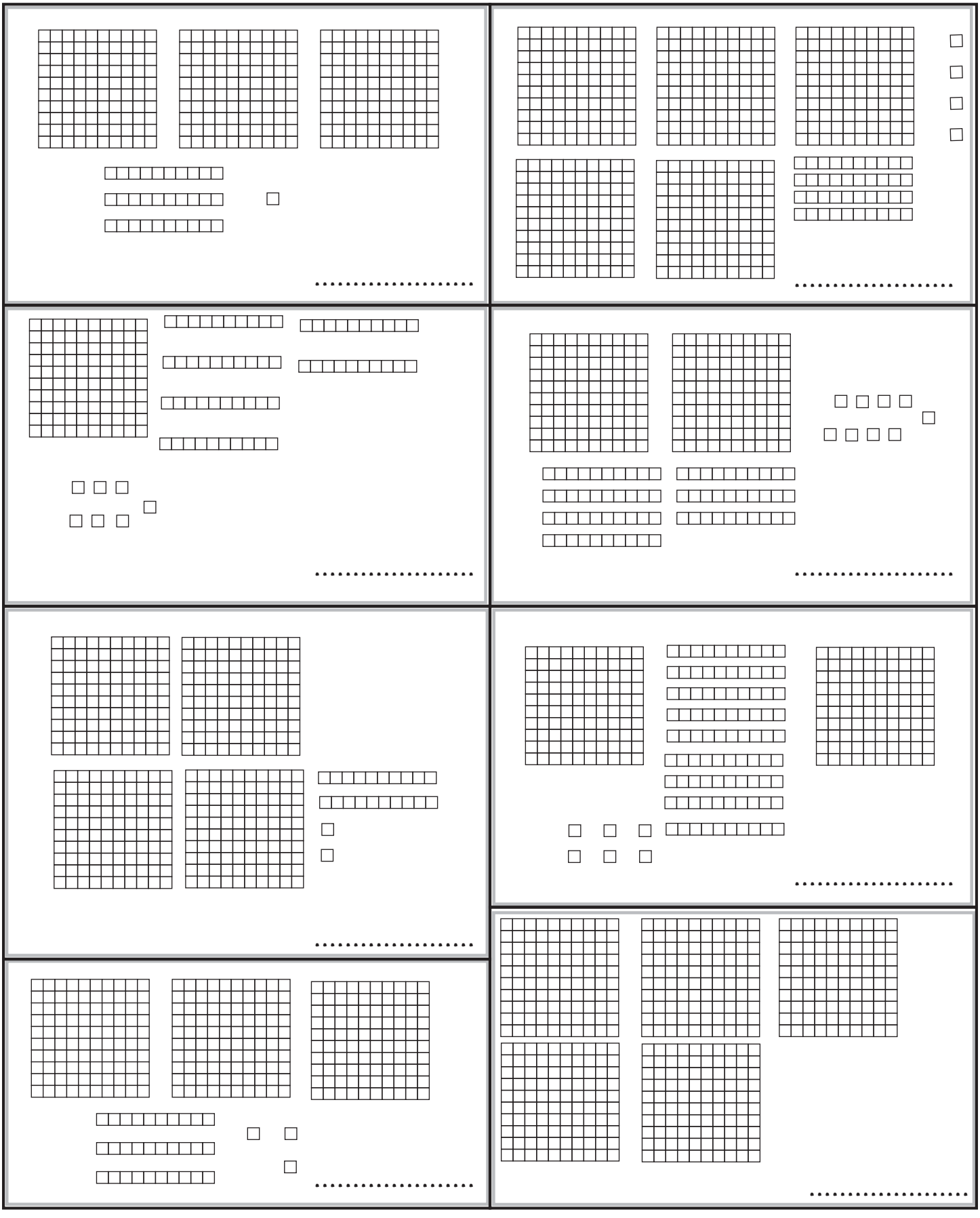




Write down the number that each picture represents.

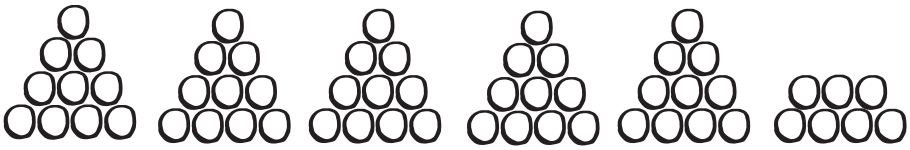


Write down the number that each picture represents

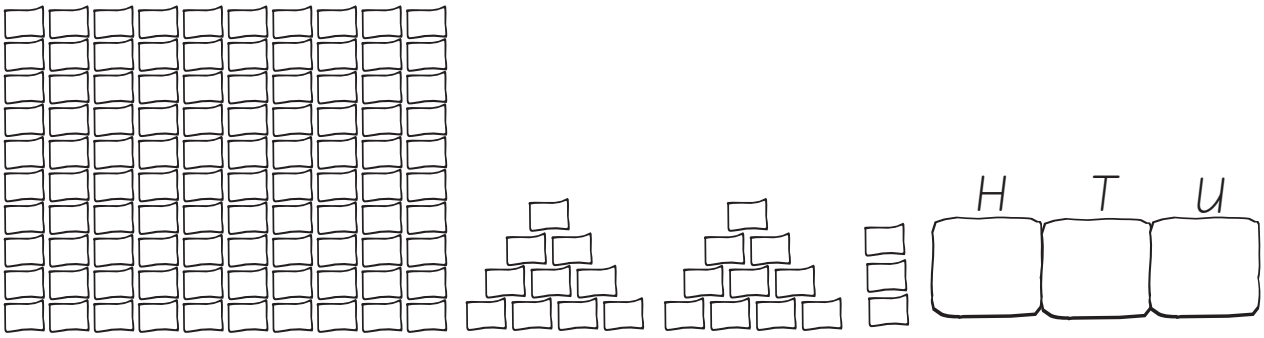


PLACE VALUE

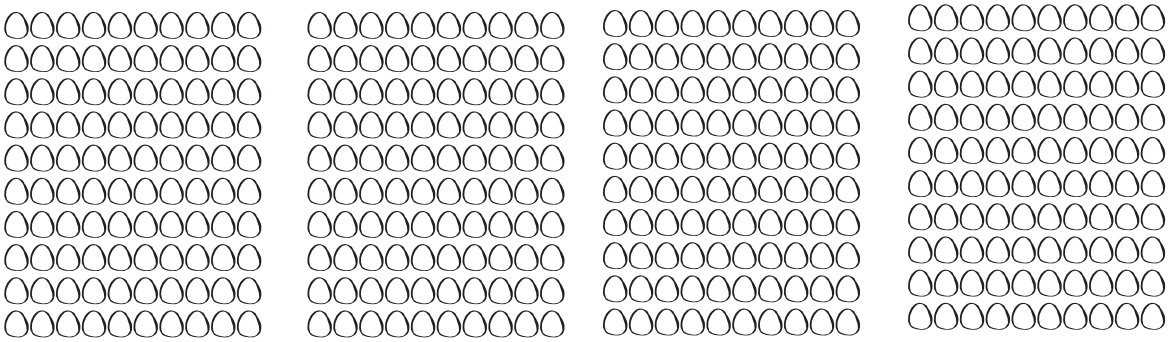
Write the number of objects in each place-value table.



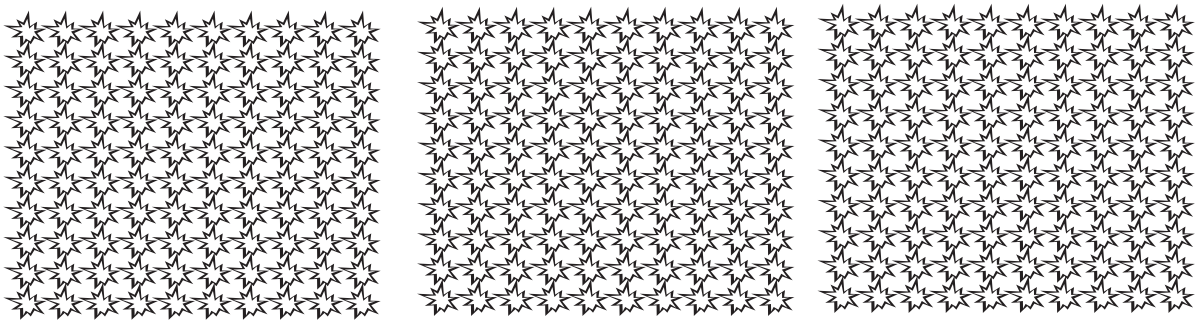
H	T	U



H	T	U



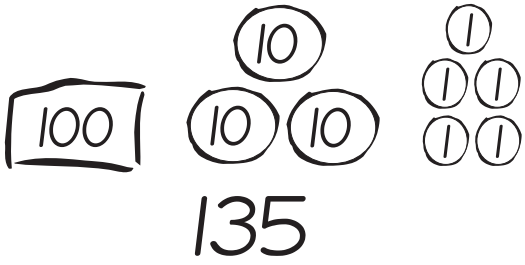
H	T	U



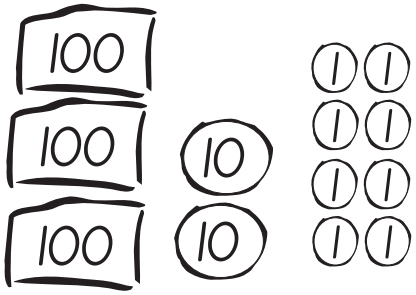
H	T	U

PLACE VALUE

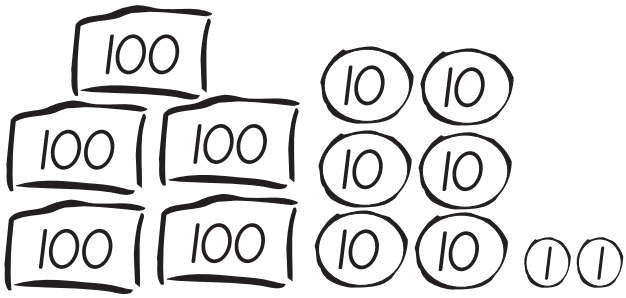
Write the correct number.



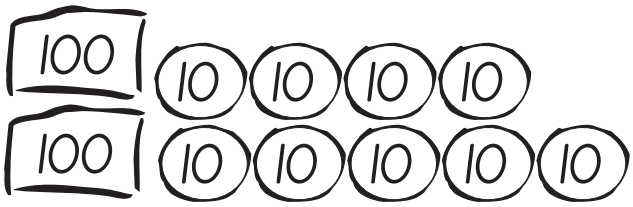
135



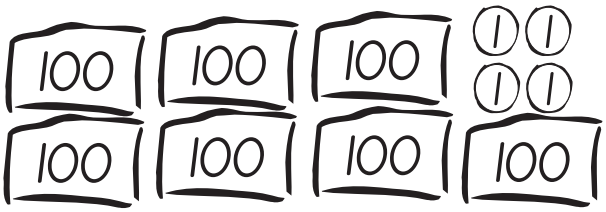
.....



.....



.....



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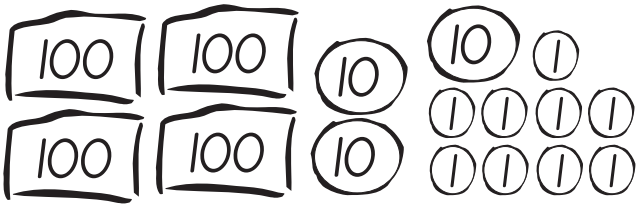
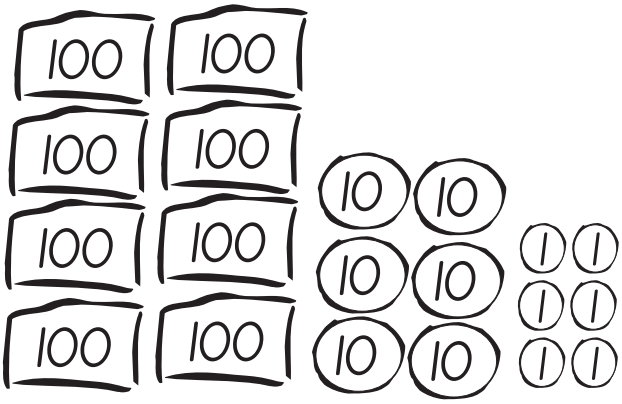
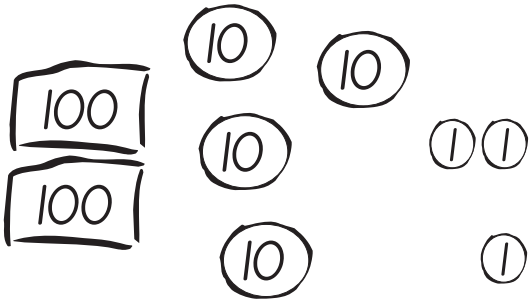


.....



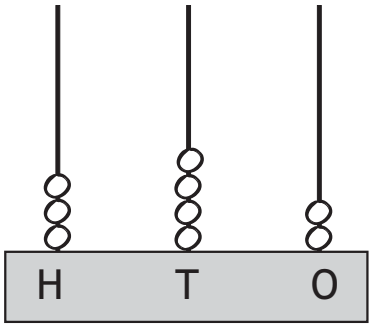
.....



.....

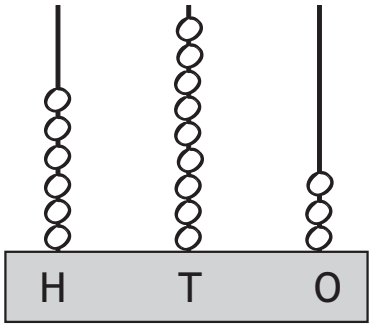
PLACE VALUE

Write the number and the number word.



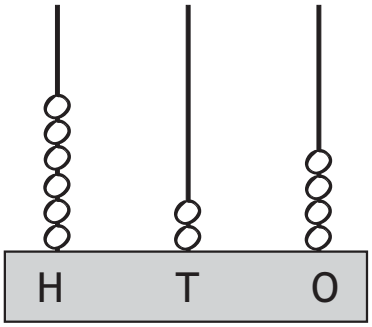
342

three hundred and forty two



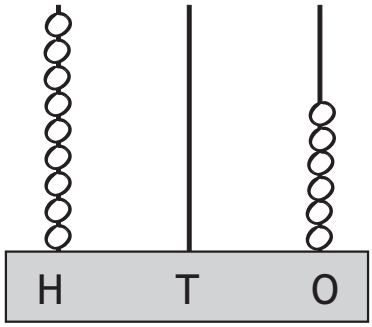
.....

.....



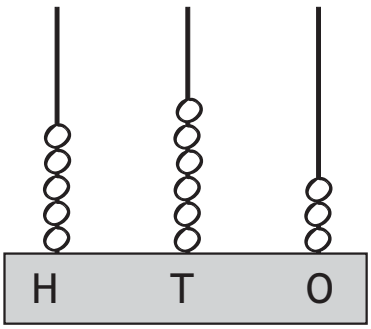
.....

.....



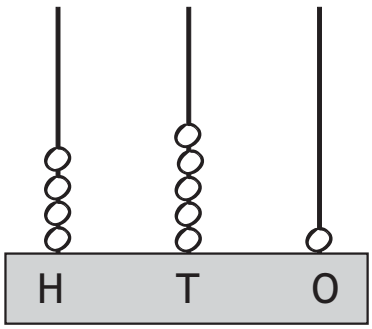
.....

.....



.....

.....

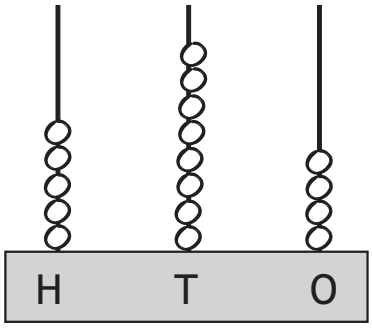


.....

.....

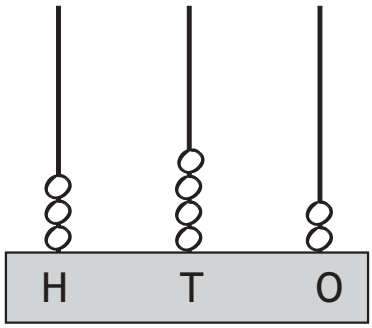
NUMBERS TO 1000

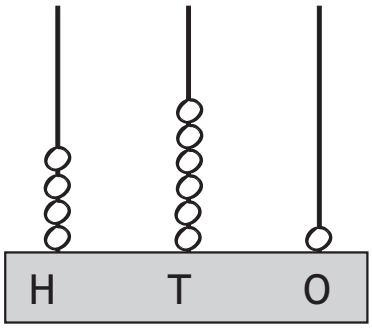
Write each sum and then write the number word.

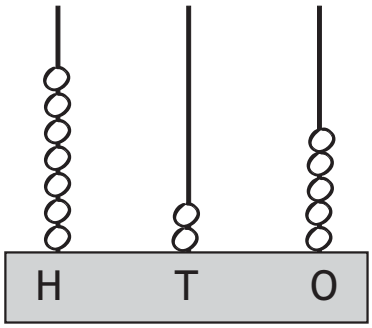


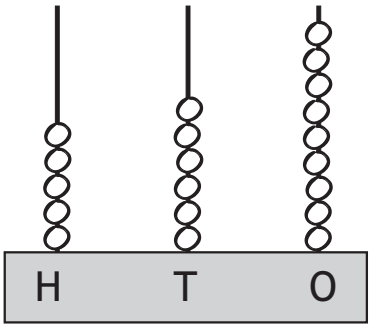
500+80+4=584

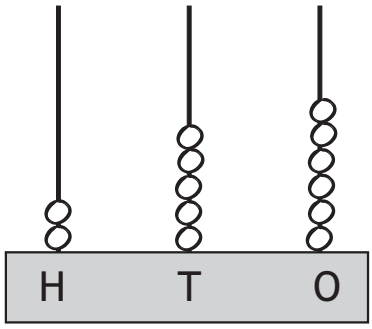
five hundred and eighty four





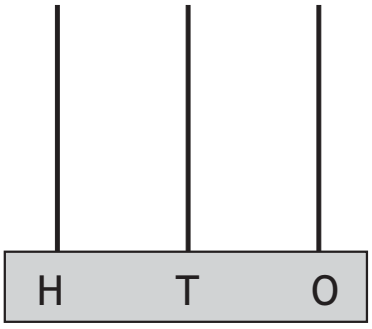






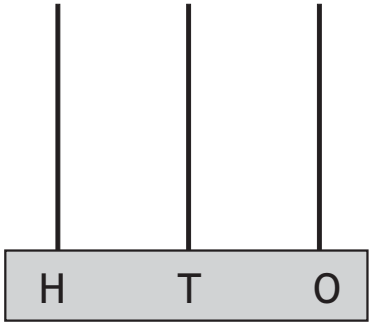
NUMBERS TO 1000

Draw the correct number of beads and write the number formed.

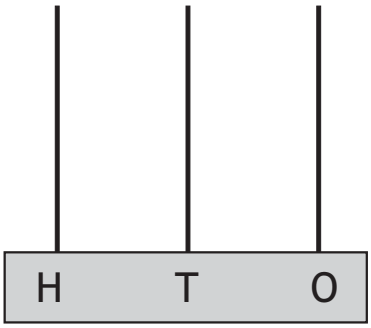


6 hundreds, 2 tens, 9 ones

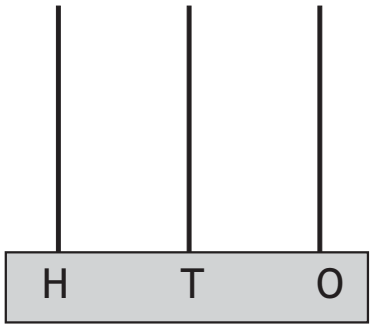
629



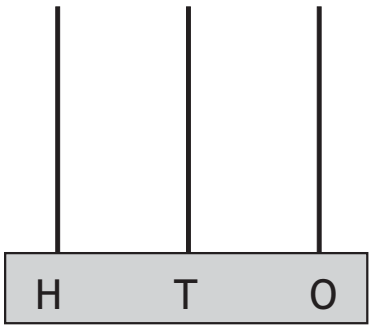
4 hundreds, 3 tens, 5 ones



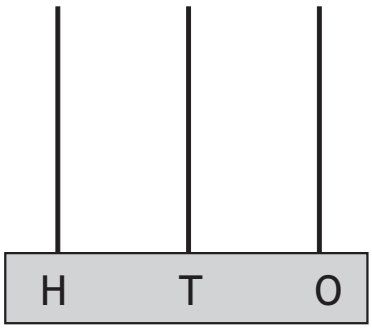
2 hundreds 2 tens, 8 ones



5 hundreds, 8 tens, 0 ones



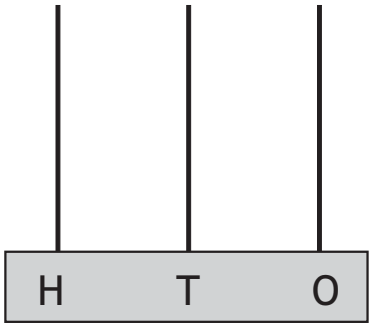
7 hundreds, 2 tens 9 ones



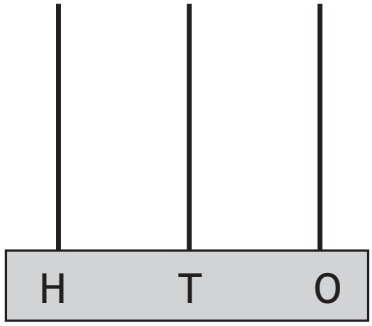
1 hundred 5 tens, 20 ones

NUMBERS TO 1000

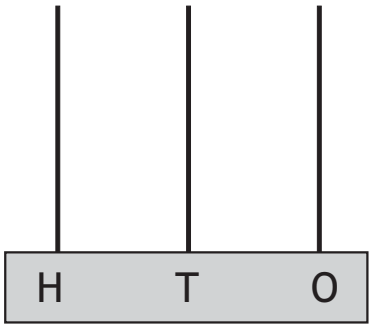
Draw the correct number of beads and write the number formed.



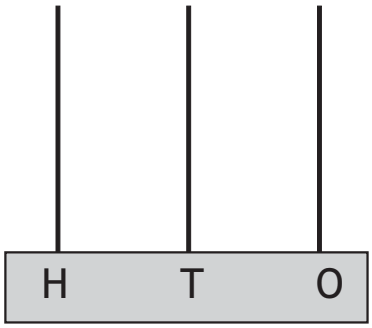
927 ones



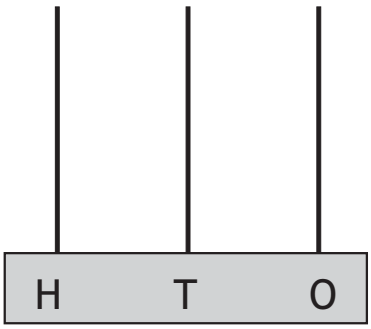
72 tens, 4 ones



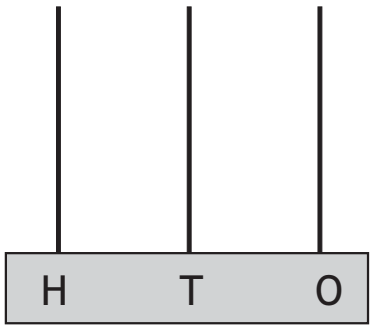
22 tens, 16 ones



30 tens 16 ones



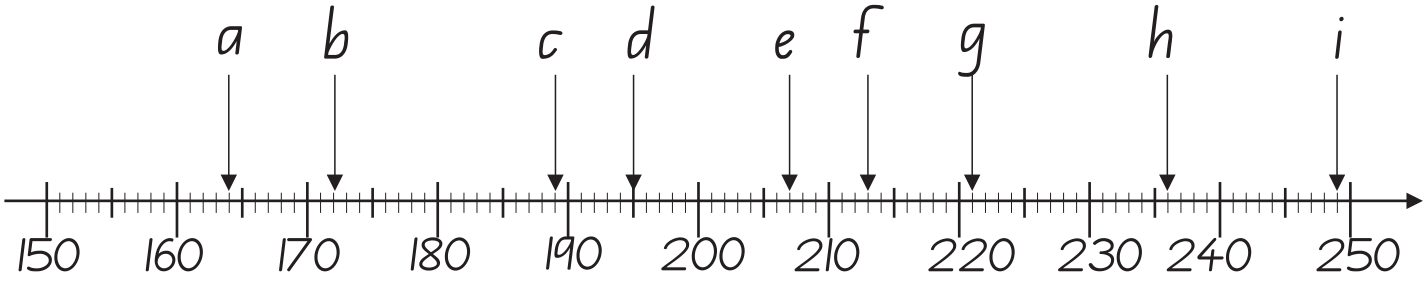
1 ten, 80 ones



3 tens, 15 ones

NUMBERS TO 1000

Which numbers have been labelled?



a = 164 one hundred and sixty four

b = ...

c = ...

d = ...

e = ...

f = ...

g = ...

h = ...

i = ...

PARTITIONING NUMBERS

Write in the missing digits.

452 = 400 + 50 + 2

348 = 300 + 40 + 8

601 = 600 + 00 + 1

794 = 700 + 90 + 4

Now, write in the missing numbers.

351 = 300 + 50 + 1

867 = 800 + 60 + 7

422 = 400 + 20 + 2

105 = 100 + 00 + 5

Finally, write the answers.

400 + 50 + 8 = 458

700 + 60 + 2 = 762

900 + 3 = 903

200 + 10 = 210

ADDITION

Arithmetic is always easier when the sum is broken into smaller bits.

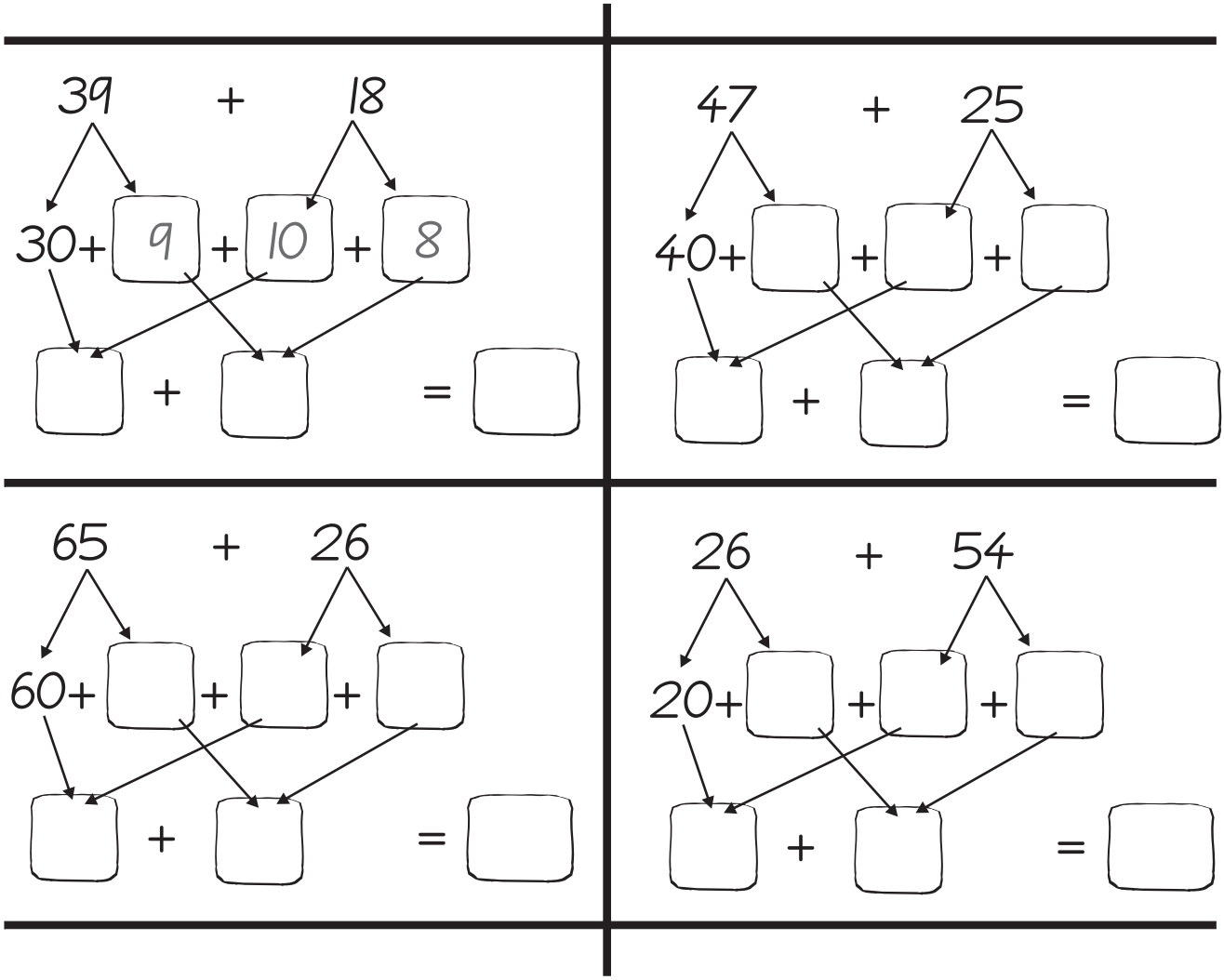
Which is easier to calculate? 26 + 18 =

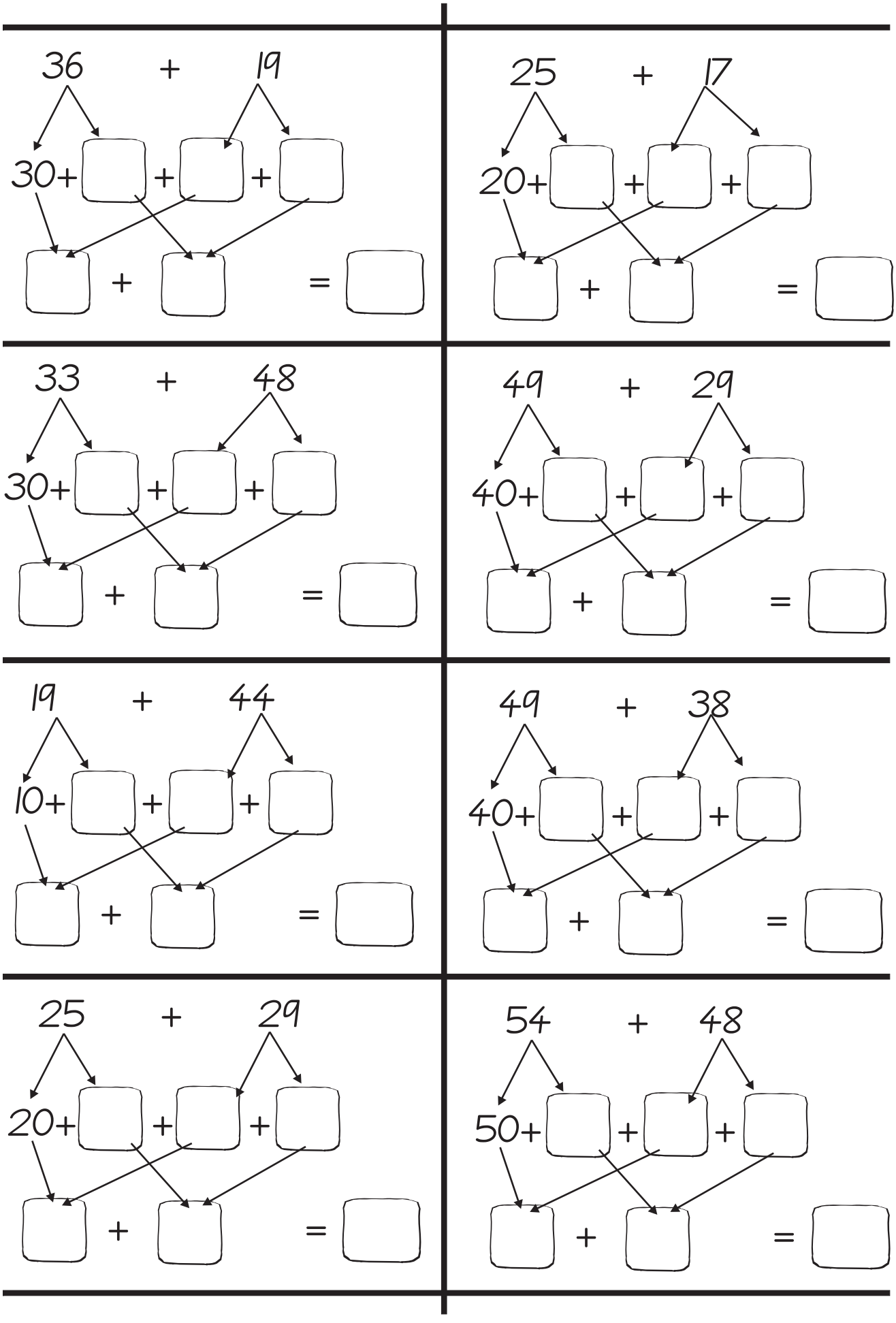
or 20+6 + 10+8

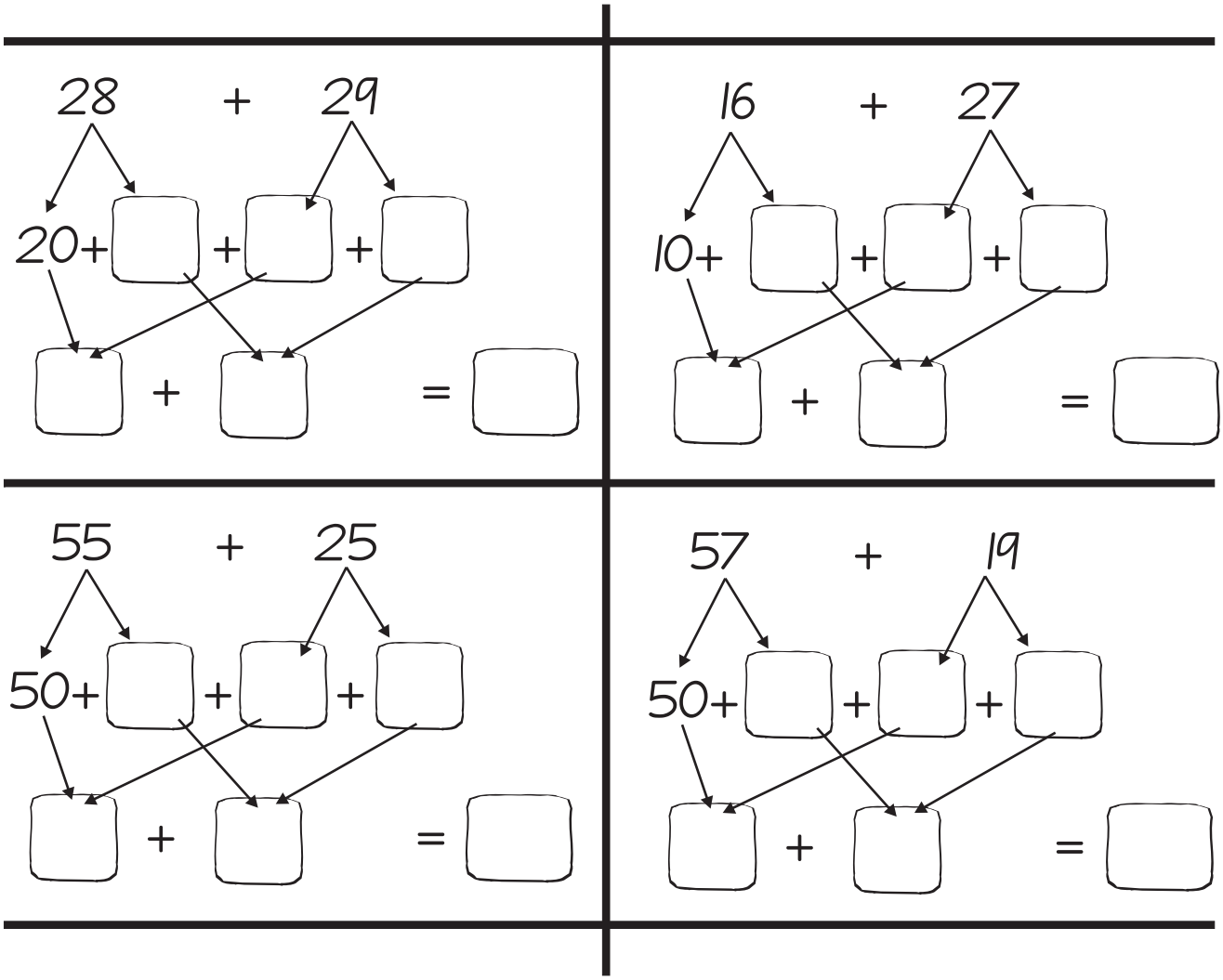
= 30 + 14

= 44

Write in the missing numbers and find the answers.




36 + 19
30+ + +
+ =
25 + 17
20+ + +
+ =
33 + 48
30+ + +
+ =
49 + 29
40+ + +
+ =
19 + 44
10+ + +
+ =
49 + 38
40+ + +
+ =
25 + 29
20+ + +
+ =
54 + 48
50+ + +
+ =



Write the answers.

23 + 17 =

71 + 29 =

46 + 14 =

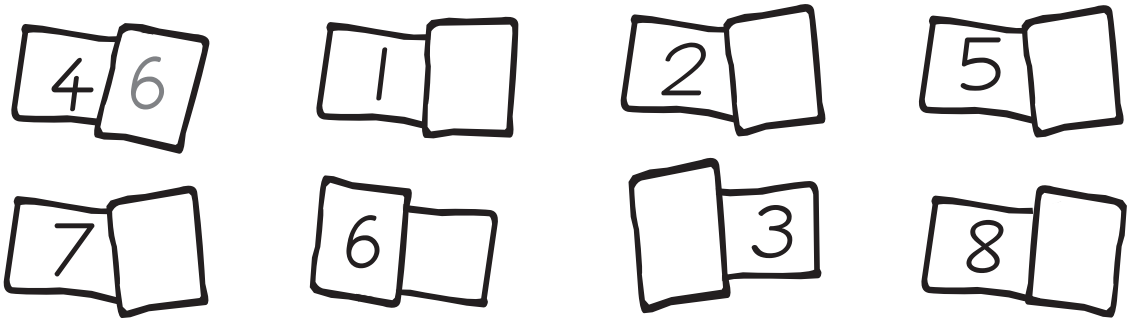
55 + 35 =

35 + 15 =

42 + 28 =

MENTAL STRATEGIES

Make each pair of number cards add up to 10.



Find pairs that add up to 10 to help you answer these.

10 10

2 + 9 + 8 + 1 = 20

1 + 3 + 2 + 8 + 9 + 6 + 4 = ...

5 + 7 + 3 + 9 + 8 + 2 + 1 = ...

5 + 2 + 5 + 5 = ...

Treat each 9 as a 10 then take away the extra 1s at the end.

7 + 9 = 7 + 10 − 1 = 16

14 + 9 = ...

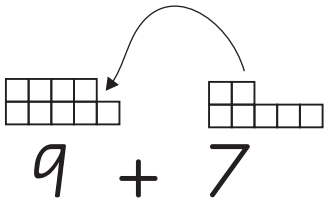
28 + 9 = ...

35 + 9 = ...

ARITHMETIC STRATEGIES

1. Making Tens

$9 + 7$



Take 1 from the 7 to leave 6.

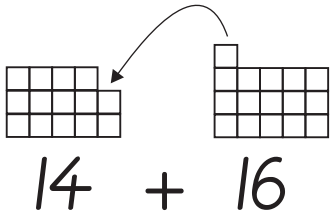
Add it to the 9 to make 10.

$= 10 + 6$

$= 16$

2. Doubles

$14 + 16$



Take 1 from the 16 to leave 15.

Add it to the 14 to make 15.

$= 15 + 15$

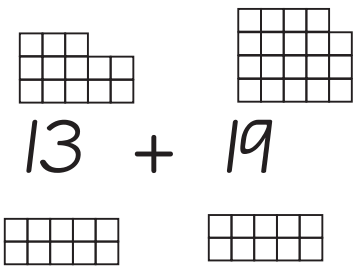
$= 30$

3. Partitioning

$13 + 19$

Separate all the tens and units.

Add all together.



$= 10 + 10 + 3 + 9$

$= 32$

Calculate the following.

LEVEL 1

5 + 4=	11 + 12=	7 + 9=
6 + 5=	9 + 8=	5 + 7=
8 + 7=	6 + 7=	12 + 8=
11 + 10=	10 + 12=	13 + 7=

LEVEL 2

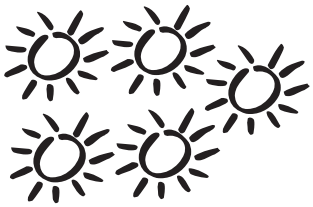
6 + 14=	10 + 15=	26 + 34=
9 + 11=	17 + 20=	23 + 27=
15 + 5=	18 + 22=	32 + 48=
17 + 13=	22 + 28=	15 + 55=

LEVEL 3

16 + 24=	48 + 52=	29 + 38=
28 + 32=	27 + 33=	14 + 27=
46 + 24=	32 + 28=	81 + 19=
35 + 15=	79 + 21=	57 + 43=

ADD TO 100

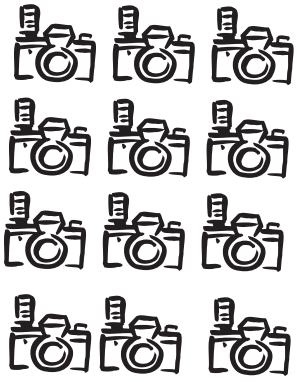
Fill in the blanks.



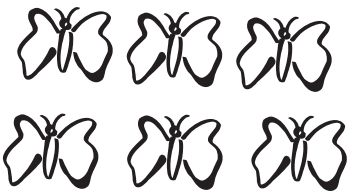
+ 95 =100

+ ..... =100

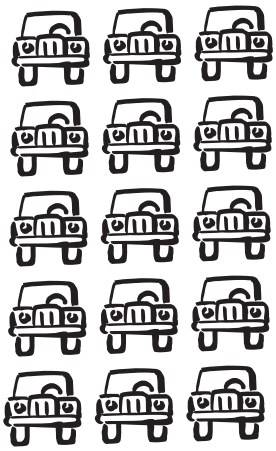
+ ..... =100



+ ..... =100

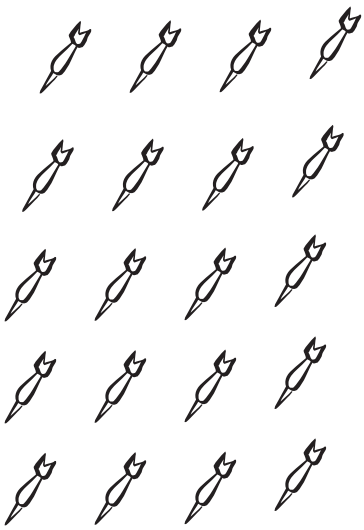


+ ..... =100



+ ..... =100

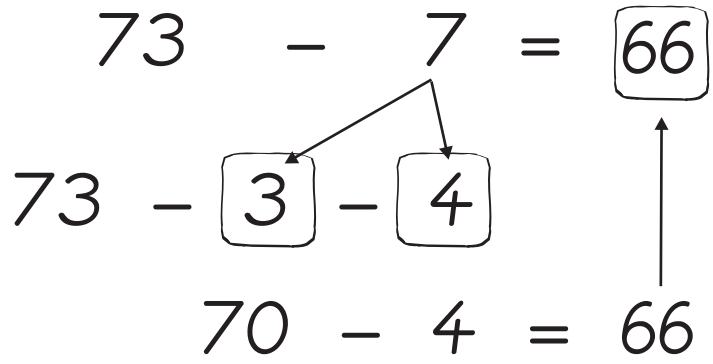
+ ..... =100



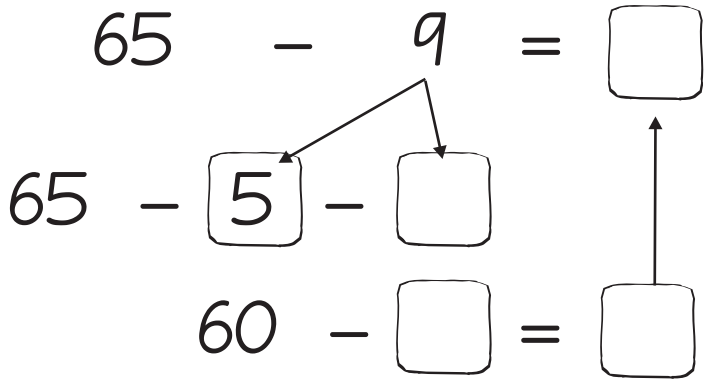
+ ..... =100

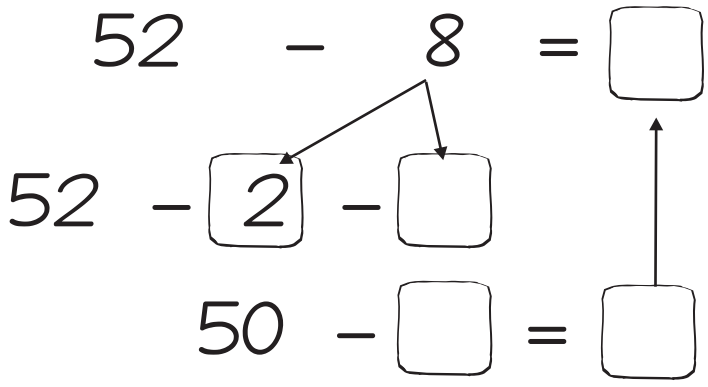
SUBTRACTION

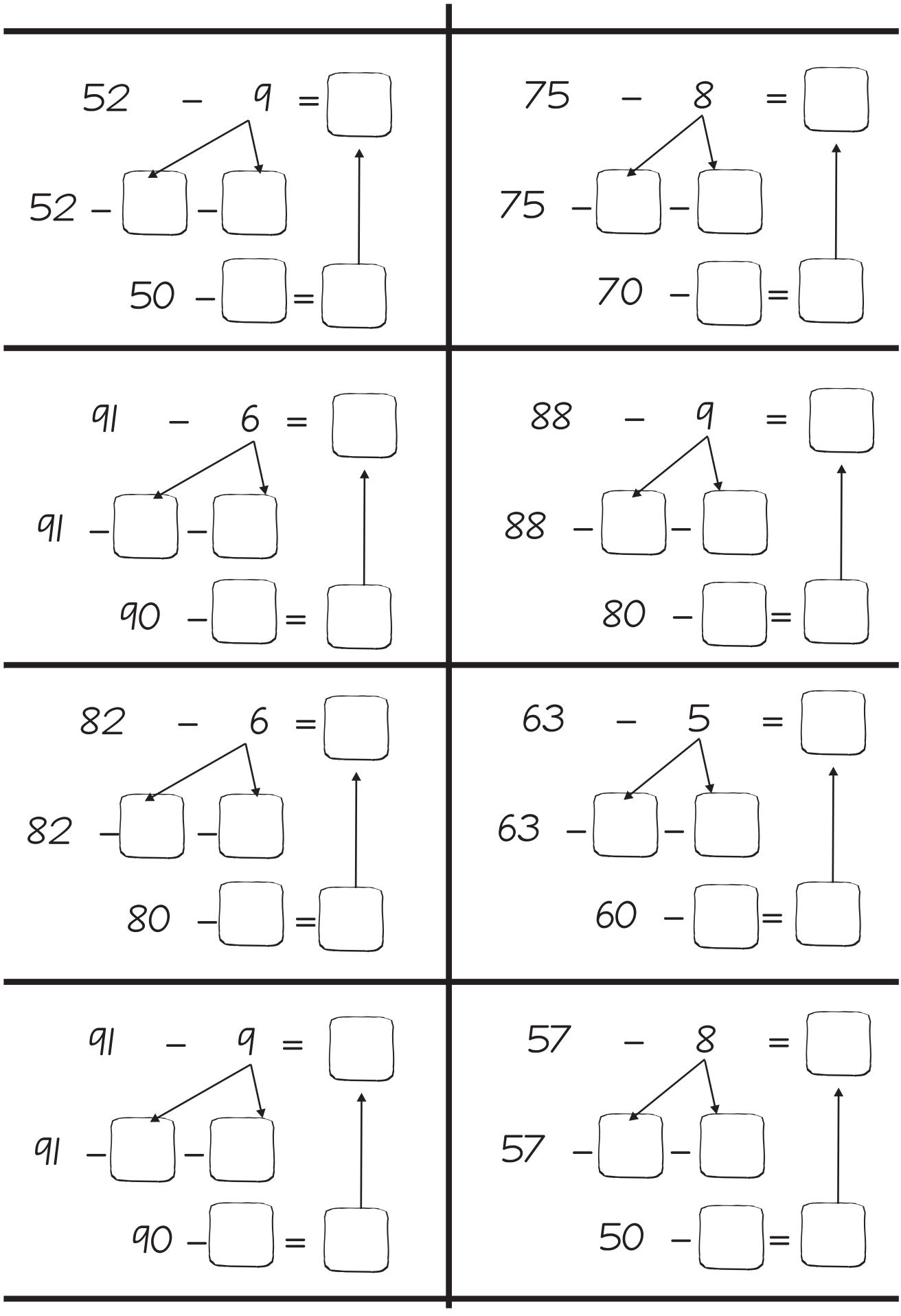
Arithmetic is easier when the sum is broken down into smaller bits.



Write in the missing numbers and find the answers.






52 − 9 =
52 − □ − □
50 − □ = □
75 − 8 =
75 − □ − □
70 − □ = □
91 − 6 =
91 − □ − □
90 − □ = □
88 − 9 =
88 − □ − □
80 − □ = □
82 − 6 =
82 − □ − □
80 − □ = □
63 − 5 =
63 − □ − □
60 − □ = □
91 − 9 =
91 − □ − □
90 − □ = □
57 − 8 =
57 − □ − □
50 − □ = □

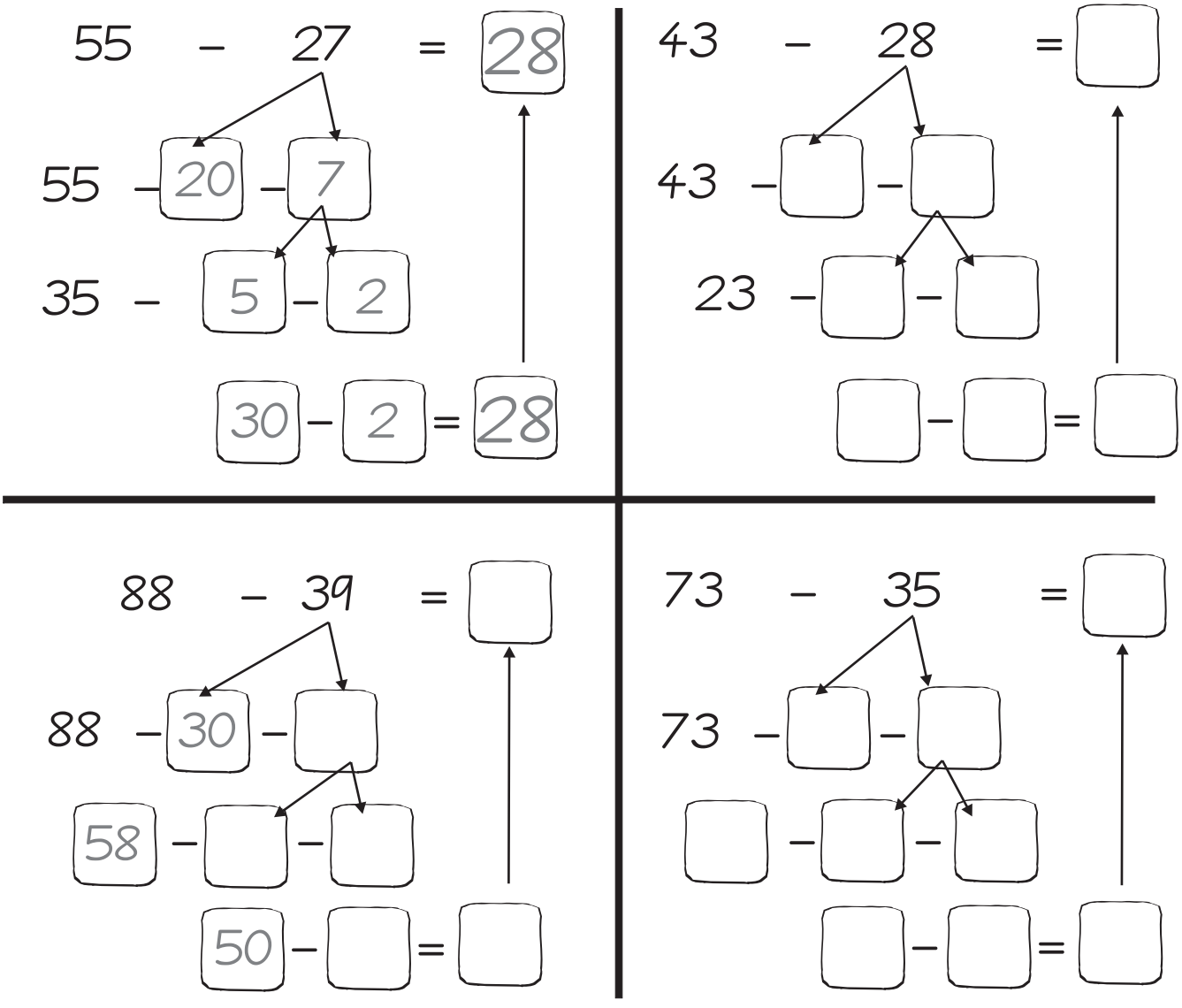
Write the answers.

96 − 8 = ☐ 74 − 6 = ☐

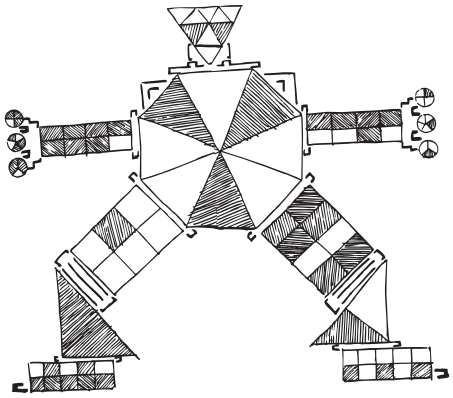
52 − 9 = ☐ 61 − 7 = ☐

75 − 6 = ☐ 44 − 9 = ☐

Use a strategy to find the answers.



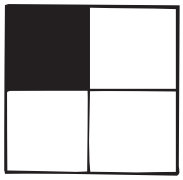
Fraction Man is here to introduce...



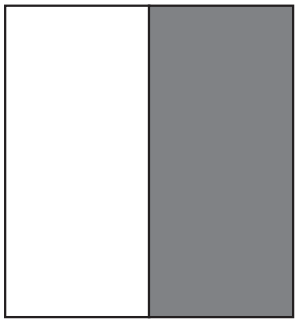
.....FRACTIONS ....

- A FRACTION IS A PART OF SOMETHING!!

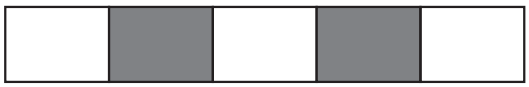
This square is divided into 4 parts with 1 part shaded.
Therefore $\frac{1}{4}$ is shaded.



Write the fraction that is shaded.

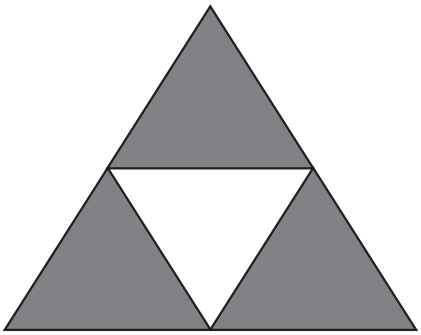


.....

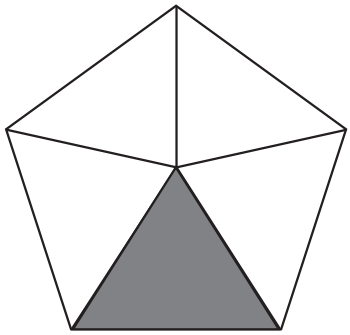


.....

.....



.....



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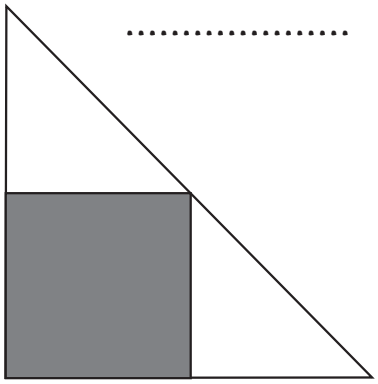
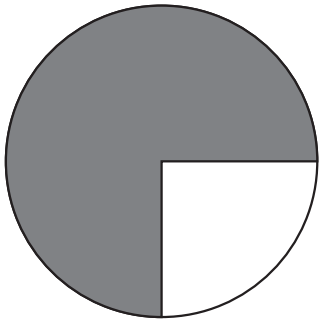


.....

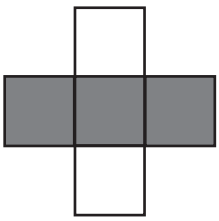


.....

FRACTIONS

What fraction of each shape is shaded?

.....



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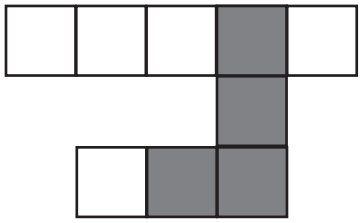
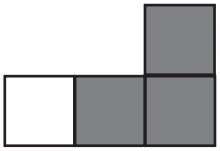
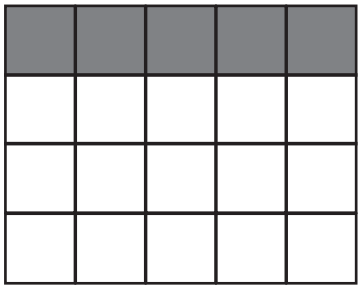


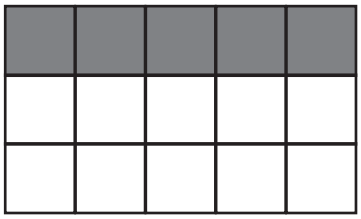
.....



.....

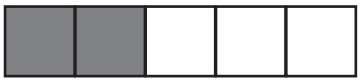


.....



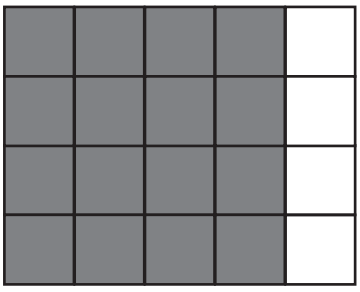
.....

.....



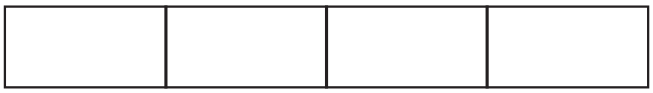
.....

.....

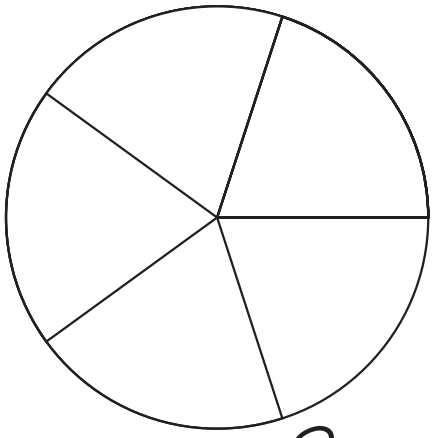


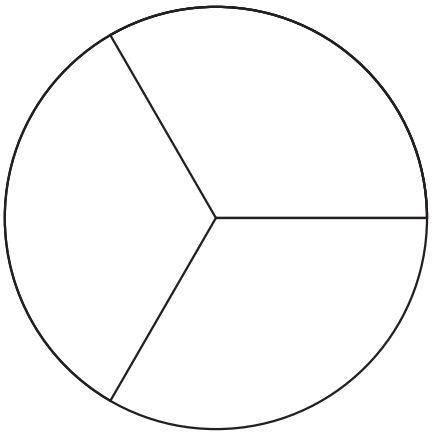
.....

Shade in each of these shapes to show the ..... FRACTION.



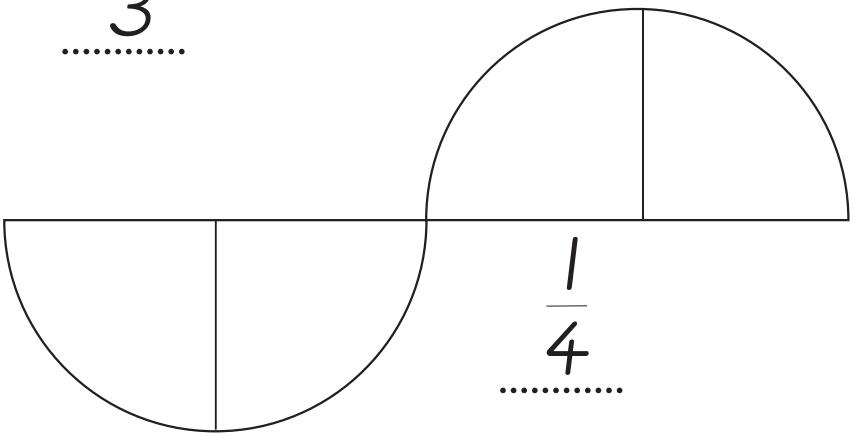
$\frac{3}{4}$



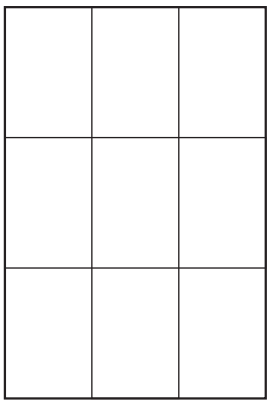


$\frac{1}{3}$

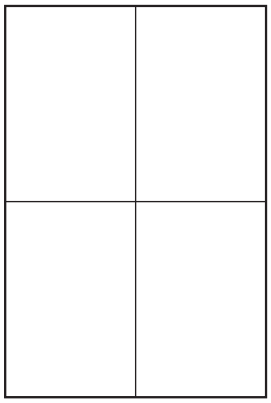
$\frac{2}{5}$



$\frac{1}{4}$

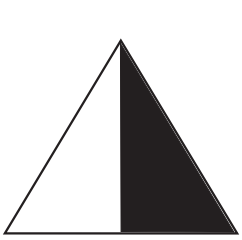


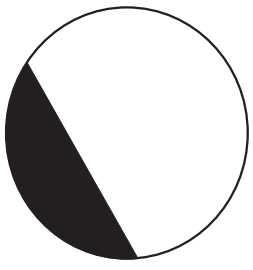
$\frac{2}{3}$



$\frac{1}{2}$

Circle each shape below that is half shaded.

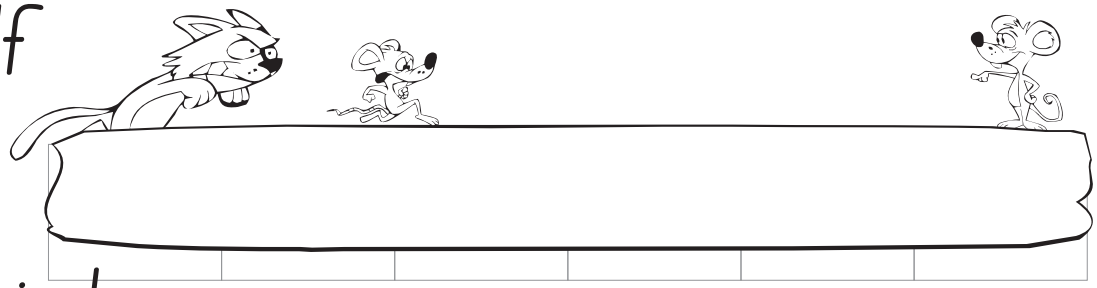




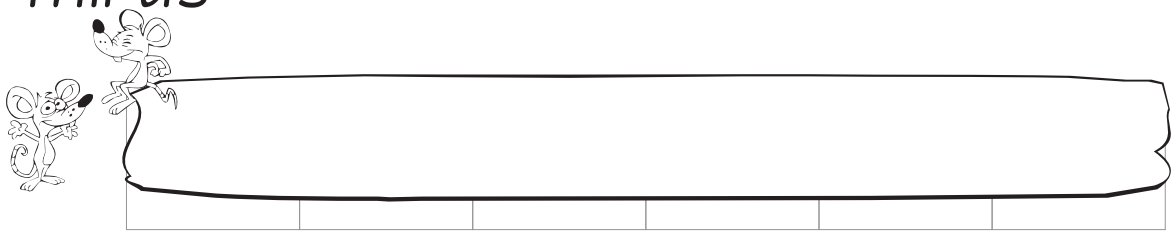
FRACTIONS

Shade the shape to show the fraction.

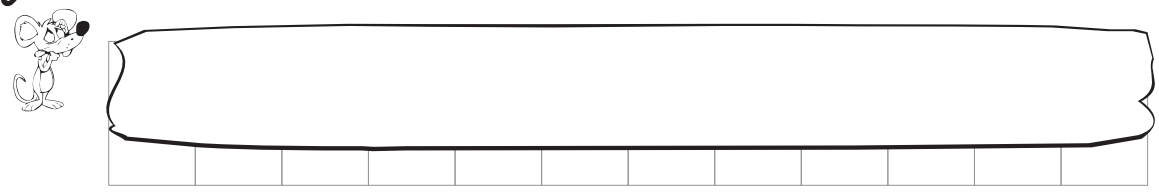
one half



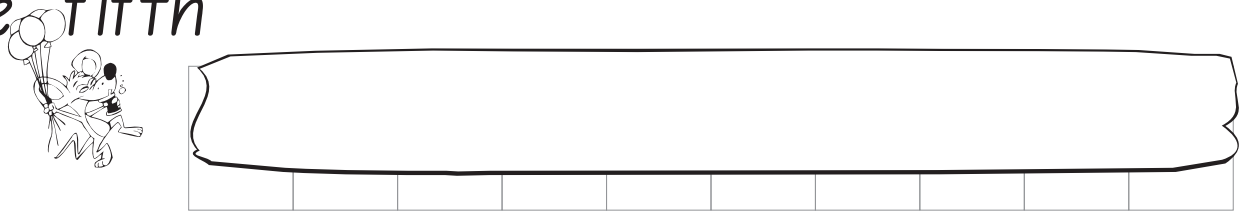
two thirds



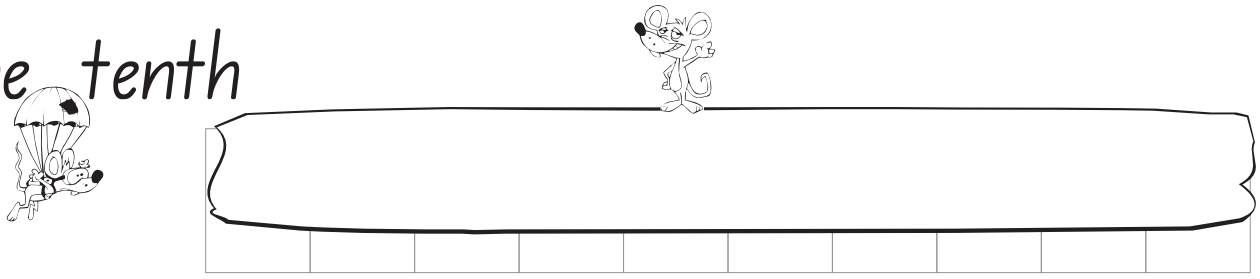
one quarter



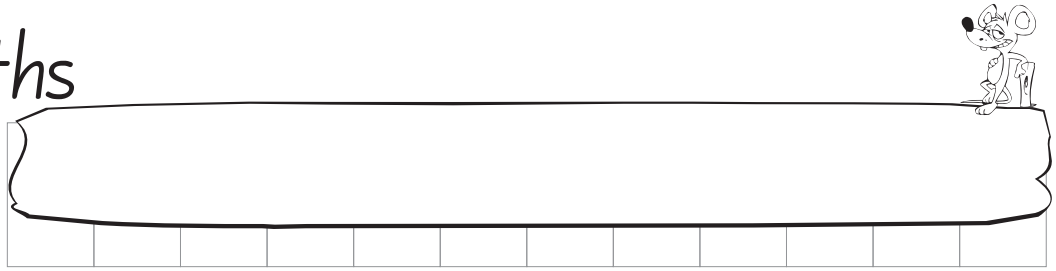
one fifth



one tenth

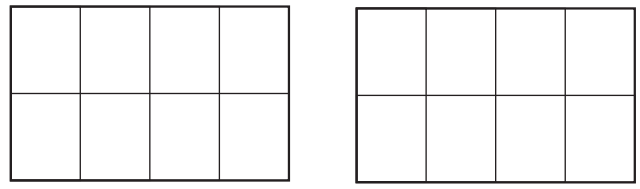


five sixths

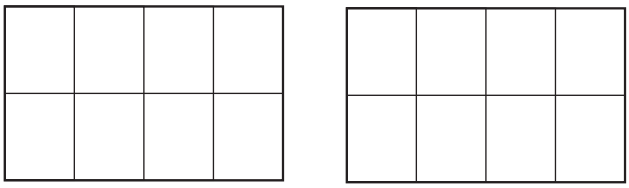


MORE FRACTIONS

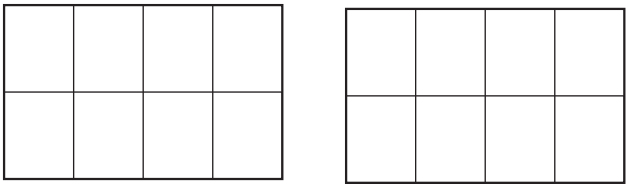
Colour each fraction.
Compare the two rectangles and fill in the missing sign with greater than (>), less than (<) or equals (=).



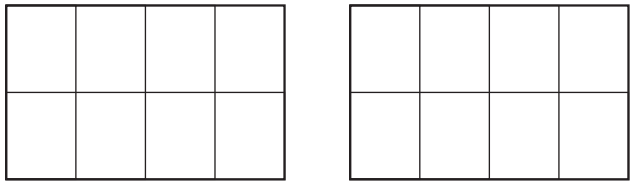
$\frac{2}{4}$ ◯ $\frac{1}{8}$



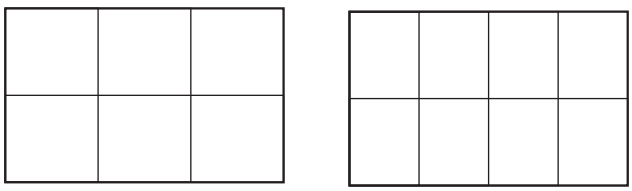
$\frac{1}{4}$ ◯ $\frac{3}{8}$



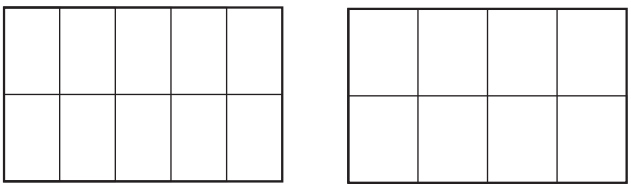
$\frac{3}{4}$ ◯ $\frac{1}{2}$



$\frac{4}{8}$ ◯ $\frac{1}{2}$



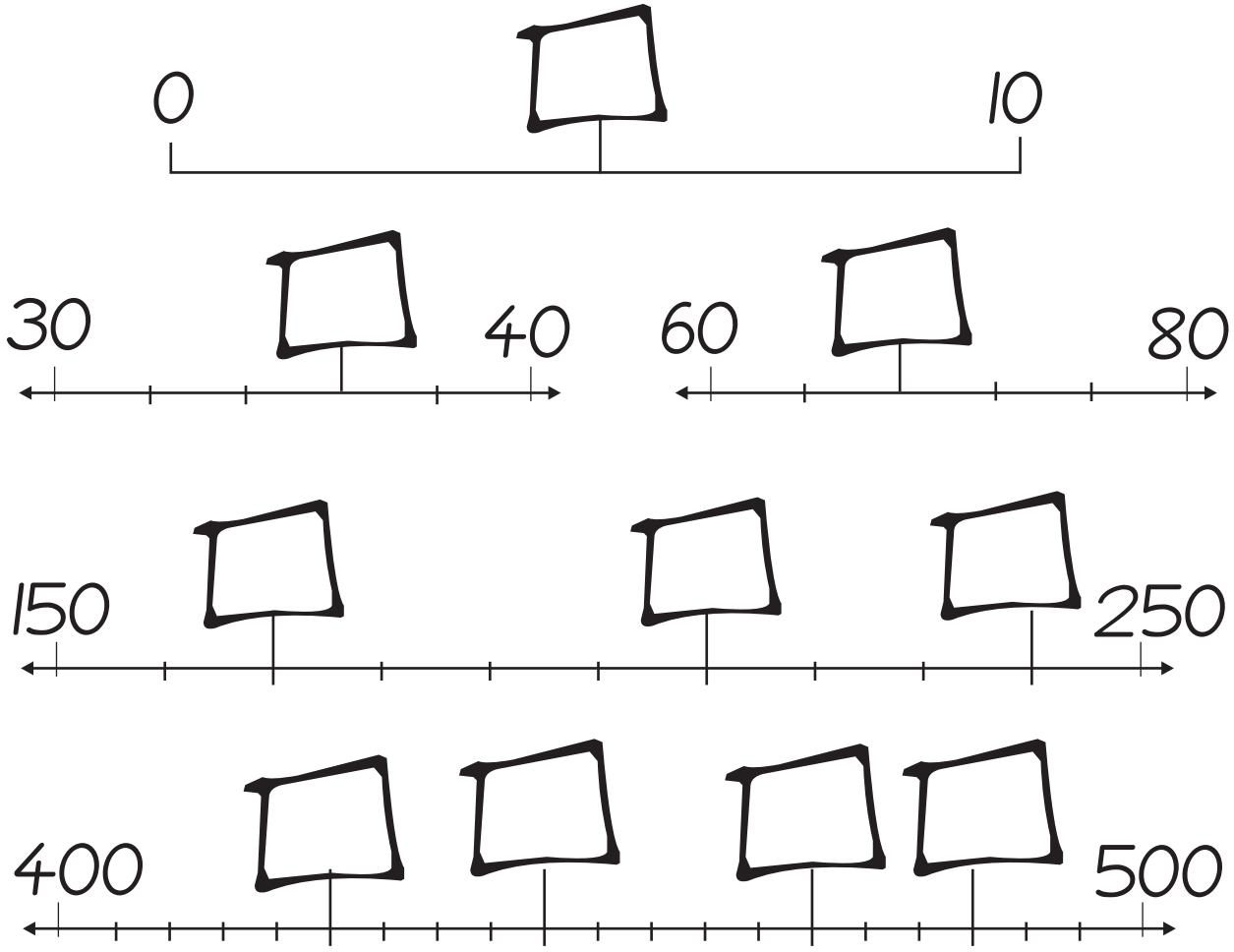
$\frac{2}{3}$ ◯ $\frac{1}{2}$



$\frac{3}{5}$ ◯ $\frac{3}{4}$

ESTIMATING NUMBERS

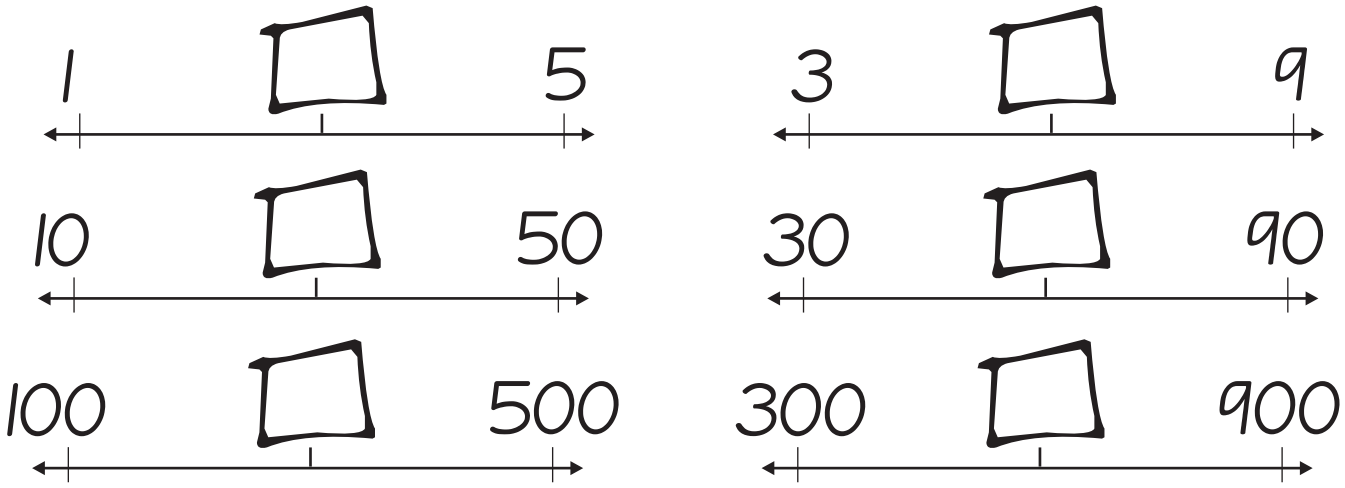
Write what you think the number in each of the boxes would be.

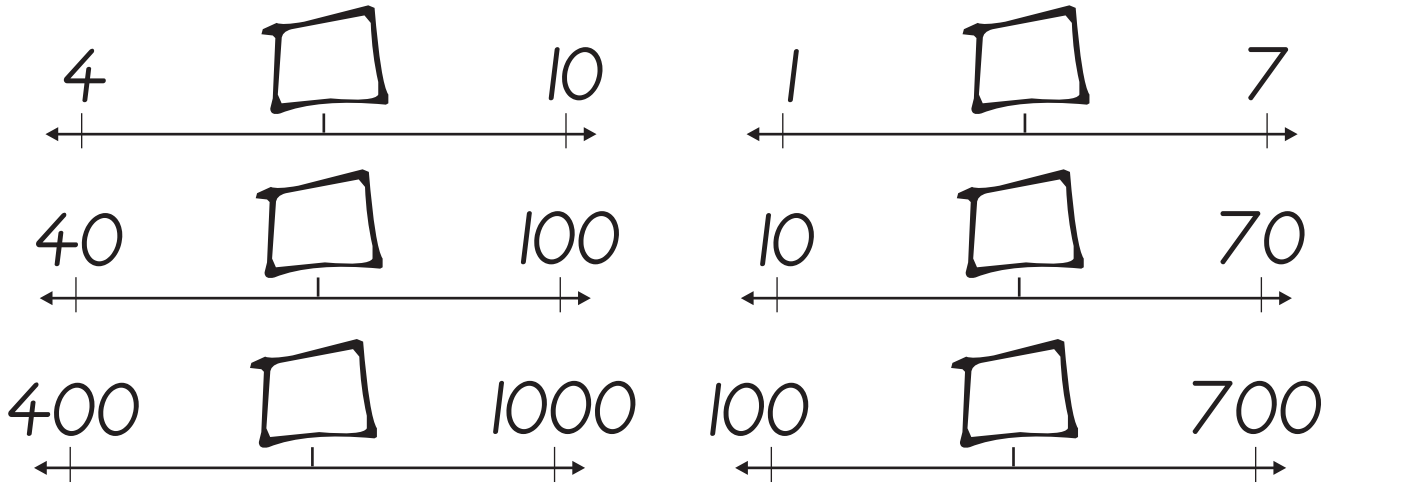


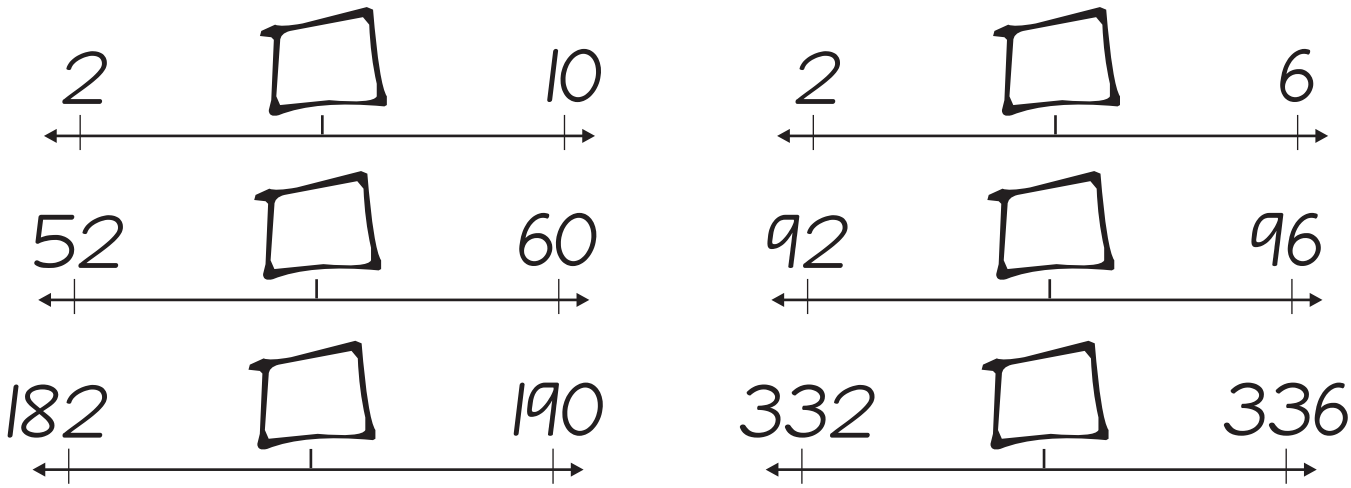
Mark on the number line below where you think the following numbers would be: 5, 12, 27, 33 and 39.

HALF WAY BETWEEN

Write in the numbers that are halfway between.

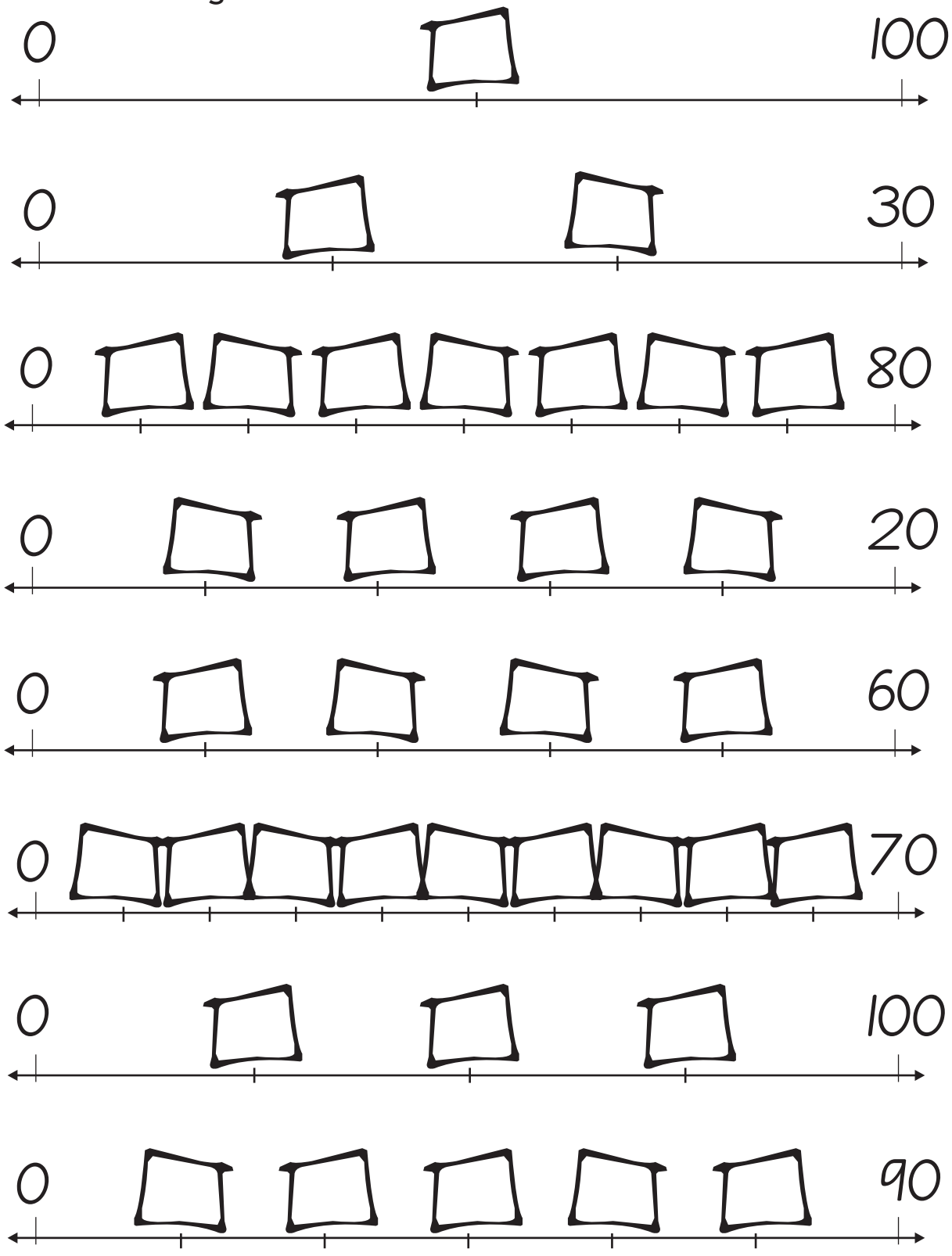






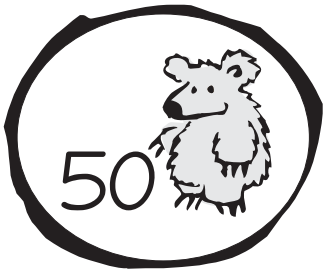
Divisions Between

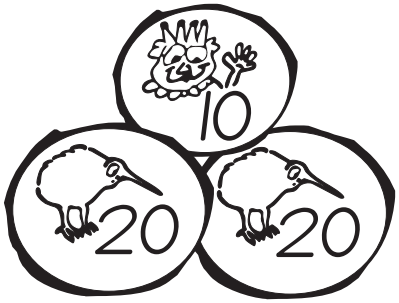
Write the missing numbers on each number line.

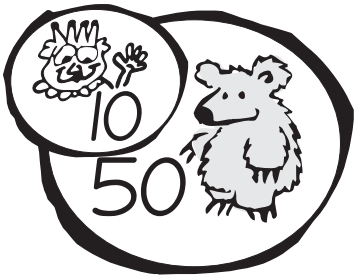


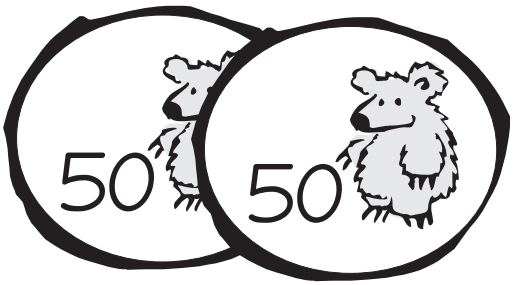
MONEY EQUIVALENTS

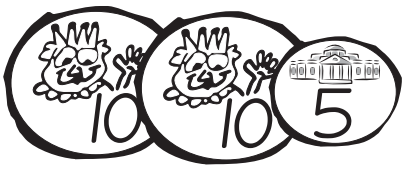
Different countries have different types of coins. Here are the most popular. Draw a line to show each equivalent value.





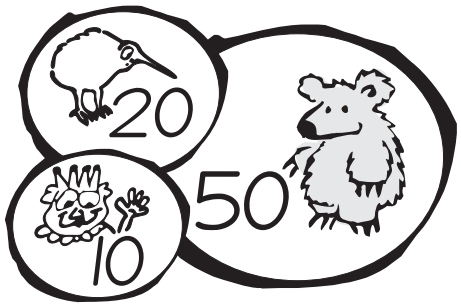


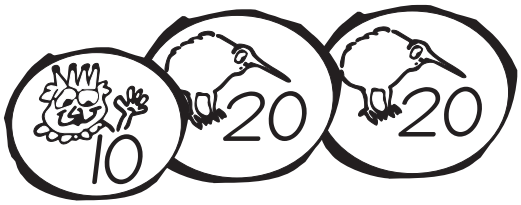


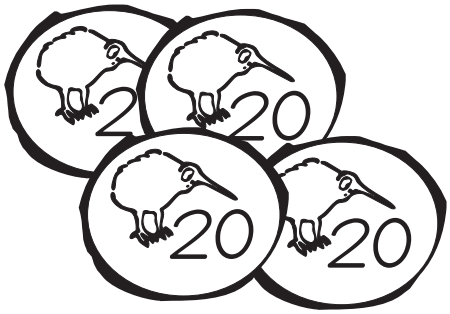


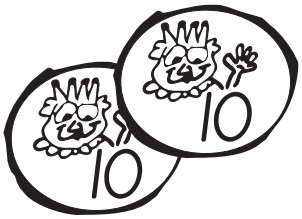
MONEY EQUIVALENTS

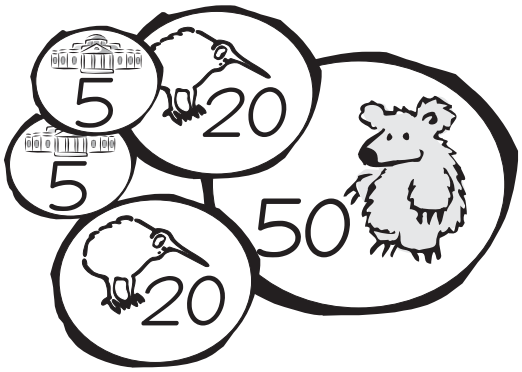
Draw a line to show each equivalent value of coins.

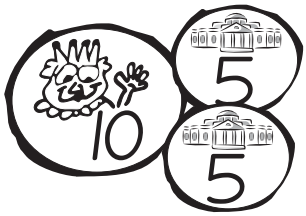




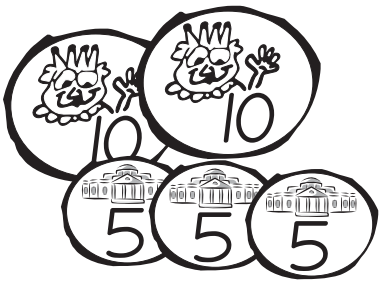








ADDING MONEY



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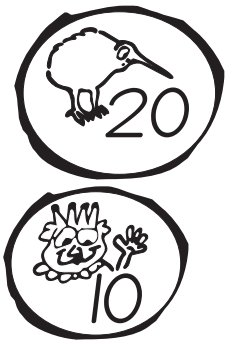

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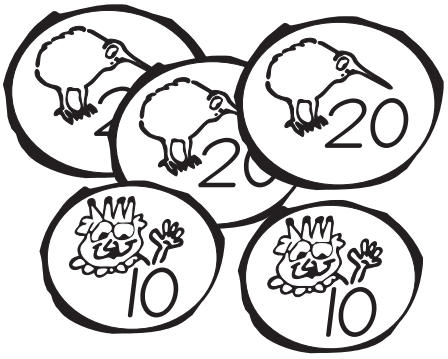

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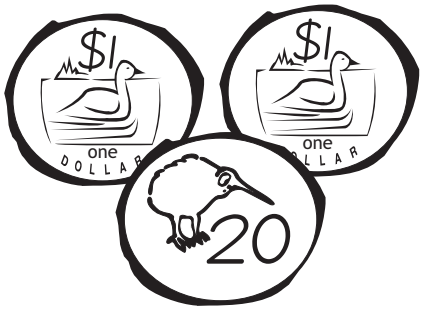

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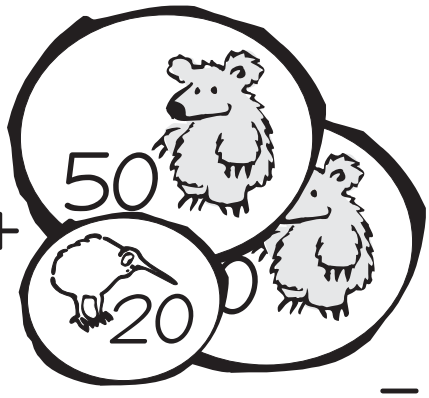

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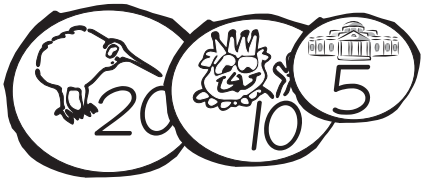
SUBTRACTING MONEY



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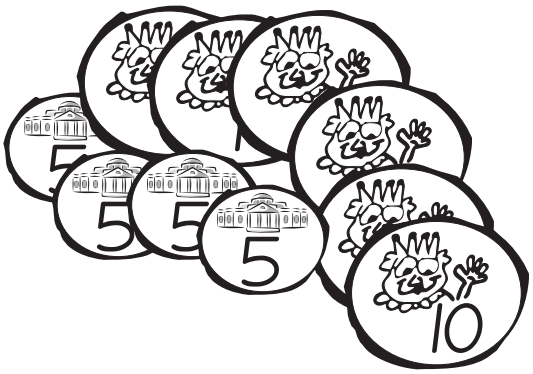

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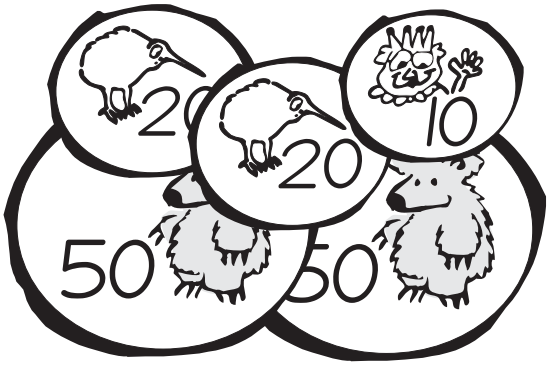
– 

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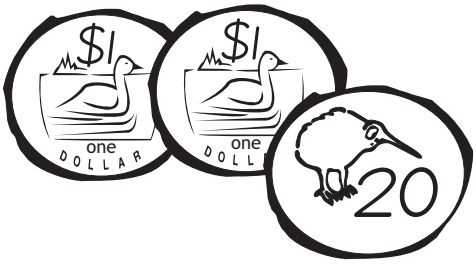
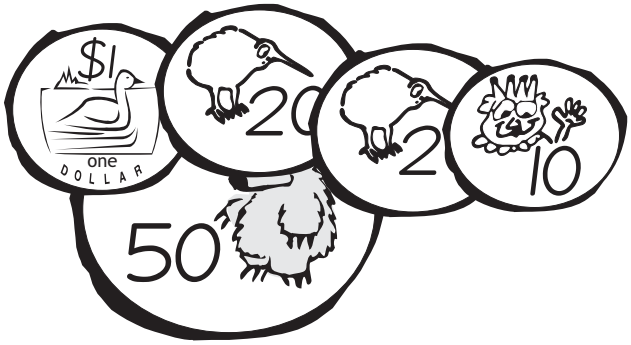


– 

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NUMBERS and PATTERNS

Complete the pattern and the rule.

2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22
Rule = Add 2 to the previous number

5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55
Rule = Add 5 to the previous number

100, 99, 98, 97, 96, 95, 94, 93, 92, 91
Rule = Subtract 1 from previous number

100, 90, 80, 70, 60, 50, 40, 30, 20, 10
Rule = Subtract 10 from previous number

1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024
Rule = Double the previous number

The sum of any two adjacent numbers is the number directly above. Fill in all the missing numbers

		100	
	55		45
30		25	
20	10	15	5

		100	
	70		30
50		20	
40	10	10	0

5

SUDOKU

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

6

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

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

7

LEARNING THE 2s

To multiply by 2: Double the number.

4×2 = 4 + 4 = 8
5×2 = 5 + 5 = 10
12×2 = 12 + 12 = 24
15×2 = 15 + 15 = 30
18×2 = 18 + 18 = 36

23×2 = 23 + 23 = 46
34×2 = 34 + 34 = 68
47×2 = 47 + 47 = 94
55×2 = 55 + 55 = 110

8

LEARNING THE 4s

To multiply by 4 : Add the number 4 times.
or Double the number, then double again.

4×12 12 doubled is 24
24 doubled is 48
∴ 4×12 = 48

4×3 = 12
4×7 = 28
4×9 = 36
4×13 = 52
4×15 = 60
4×18 = 72
4×22 = 88
4×25 = 100
4×32 = 128
4×34 = 136
4×47 = 188
4×55 = 220

9

Even Numbers		Odd Numbers	
5×6 =	30	5×9 =	45
5×8 =	40	5×11 =	55
5×14 =	70	5×15 =	75
5×18 =	90	5×17 =	85
5×20 =	100	5×19 =	95
5×22 =	110	5×21 =	105
5×26 =	130	5×23 =	115
5×28 =	140	5×25 =	125
5×30 =	150	5×31 =	155

11

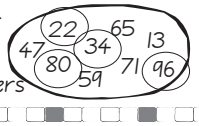
FINDING MULTIPLES

When you multiply a number by another the result is a multiple.
e.g. Multiplying 3 × 5 = 15 therefore 15 is a multiple of 3.

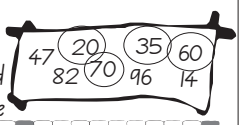
The first few multiples of the 3 are 3, 6, 9, 12, 15, 18, ...

Find each of the multiples.

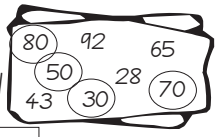
Circle each multiple of 2.
Circle all the even numbers



Circle each multiple of 5.
Circle all the numbers that end in a zero or five



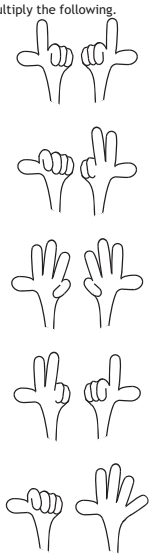
Circle each multiple of 10.
Circle all the numbers that end in a zero.



12

Use your finger calculator to multiply the following.

7×7 = 49
6×8 = 48
9×9 = 81
8×7 = 56
6×10 = 60



15

Use your finger calculator to multiply the following.

7×8 =	56	7×10 =	70
9×8 =	72	9×6 =	54
8×8 =	64	8×6 =	48
9×7 =	63	6×9 =	54
9×10 =	90	6×6 =	36
8×10 =	80	7×9 =	63
8×9 =	72	6×7 =	42
9×9 =	81	7×6 =	42

16

Fingers Multiplication by 9

Use the fingers method to calculate these 9 x multiplications.

9×3= 27

9×8= 72

9×5= 45

9×7= 63

9×2= 18

9×9= 81

9×10= 90

9×6= 54

18

Multiplication by 9: Method 2

This is called the one less = nine method.

Step ONE: Subtract 1 from the number you are multiplying 9 by. This is the first digit.

Step TWO: The two digits that make up the answer add to give 9. Calculate the second digit.

9 × 4 = 36

4−1=3 3+6=9

Remember - these methods only work up until 9x10.
Find a calculator and write out the 9 times table up to 30.
Can you see a pattern emerging?

9×3= 27 9×7= 63

9×8= 72 9×2= 18

9×5= 45 9×9= 81

9×10= 90 9×6= 54

19

NUMBERS 0 TO 100

Count and write the correct number in each box.

47 56

41 24

39 17

52 33

26 45

20

NUMBER RELATIONSHIPS

Complete the tables.

−2		+2
29	31	33
39	41	43
49	51	53
59	61	63

−5		+5
17	22	27
27	32	37
37	42	47
47	52	57

−7		+7
8	15	22
18	25	32
28	35	42
38	45	52

28 82 56 37 9 15 44

Put the circled numbers above in order - smallest to biggest

9 15 28 37 44 56 82

Complete these additions

50	37	26	50	41
+43	+52	+30	+27	+45
93	89	56	77	86

21

ARITHMETIC

Use the diagrams to complete the sums.

16 + 5 = 21

21 − 5 = 16

17 + 8 = 25

25 − 8 = 17

41 + 5 = 46

46 − 5 = 41

44 + 16 = 60

60 − 16 = 44

22

15 + 12 = 27

27 − 12 = 15

24 + 8 = 32

32 − 8 = 24

CROSS-NUMBER

ACROSS

1. 5, 10, 15, ..., 25
3. 8, 6, 4, ..., 0
4. 1, 2, 4, 8, ..., 32
5. 10, 20, 30, ...
6. 3, 6, 9, ..., 15

DOWN

1. 100 − 78
2. 100 − 4
4. 100 − 90
5. 100 − 58
7. 100 − 91

23

ARITHMETIC

Fill in the missing numbers.

34 + 5 = 39 45 + 5 = 50 6 + 87 = 93

46 + 2 = 48 22 + 7 = 29 8 + 53 = 61

73 + 4 = 77 65 + 3 = 68 7 + 27 = 34

98 − 8 = 90 33 − 3 = 30

77 − 5 = 72 58 − 2 = 56

28 − 7 = 21 50 − 6 = 44

CROSS-NUMBER

ACROSS

1. 10 + 6
3. 6 + 3
4. 25 + 11 + 2
5. 32 + 52
6. 6 + 16

DOWN

1. 20 − 1
2. 32 − 4
4. 40 − 6
5. 87 − 5
7. 12 − 4

24

= 50 = 30 = 20

+ + = 100

+ − = 60

− + = 40

Circle 2 numbers that add up to 20

15 19 4 18 11 3 5

4 17 1 6 3 10

Circle 3 numbers that add up to 50

3 6 9 12 14 15

20 18 11 25 45 32 5

13 22 12 2 15 9

20 5 32 44 8 11 2 10

If △ + △ = 50

and ○ + ○ + ○ = 36

25+12=37

then △ + ○ = ...

25

Write down the number that each picture represents.

342 423

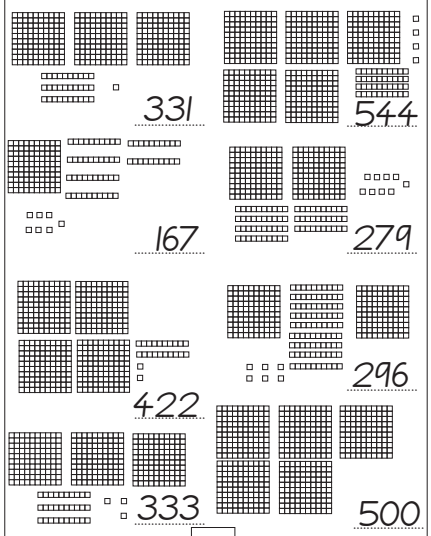
188 297

187 620

234 109

27

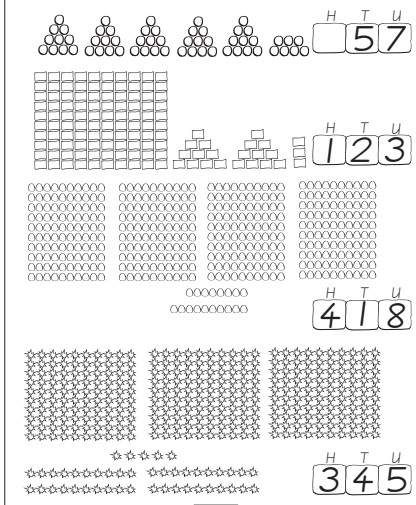
Write down the number that each picture represents.



28

PLACE VALUE

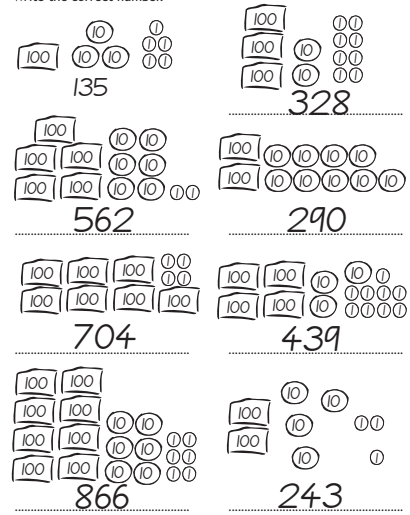
Write the number of objects in each place-value table.



29

PLACE VALUE

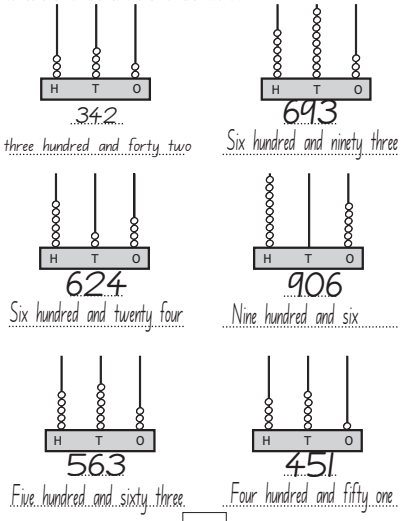
Write the correct number.



30

PLACE VALUE

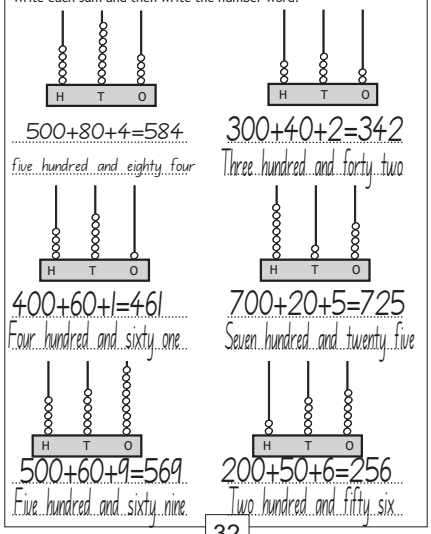
Write the number and the number word.



31

NUMBERS TO 1000

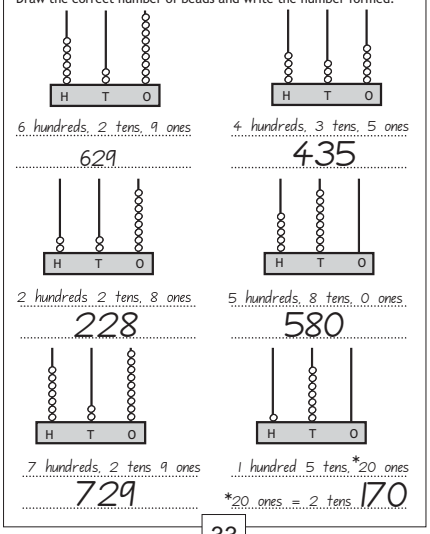
Write each sum and then write the number word.



32

NUMBERS TO 1000

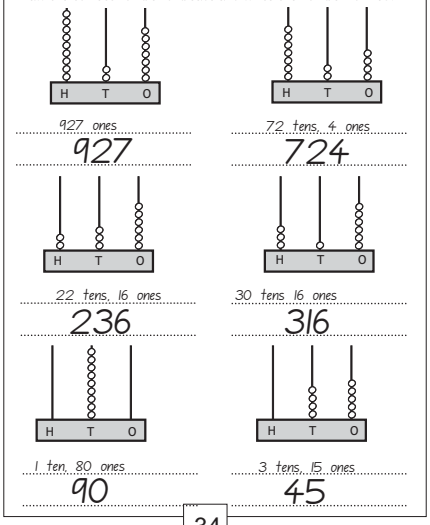
Draw the correct number of beads and write the number formed.



33

NUMBERS TO 1000

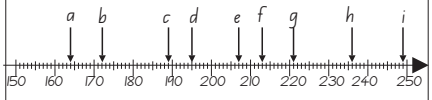
Draw the correct number of beads and write the number formed.



34

NUMBERS TO 1000

Which numbers have been labelled?



a = 164 one hundred and sixty four

b = 172 one hundred and seventy two

c = 189 one hundred and eighty nine

d = 195 one hundred and ninety five

e = 207 two hundred and seven

f = 213 two hundred and thirteen

g = 221 two hundred and twenty one

h = 236 two hundred and thirty six

i = 249 two hundred and forty nine

35

PARTITIONING NUMBERS

Write in the missing digits.

452 = 400 + 50 + 2

348 = 300 + 40 + 8

601 = 600 + 0 + 1

794 = 700 + 90 + 4

Now, write in the missing numbers.

351 = 300 + 50 + 1

867 = 800 + 60 + 7

422 = 400 + 20 + 2

105 = 100 + 0 + 5

Finally, write the answers.

400 + 50 + 8 = 458

700 + 60 + 2 = 762

900 + 3 = 903

200 + 10 = 210

36

ADDITION

Arithmetic is always easier when the sum is broken into smaller bits.

Which is easier to calculate? 26 + 18 =

or 20+6 + 10+8

= 30 + 14

= 44

Write in the missing numbers and find the answers.

39 + 18 → 30+9+10+8 → 40 + 17 = 57

47 + 25 → 40+7+20+5 → 60 + 12 = 72

65 + 26 → 60+5+20+6 → 80 + 11 = 91

26 + 54 → 20+6+50+4 → 70 + 10 = 80

37

36 + 19 → 30+6+10+9 → 40 + 15 = 55

25 + 17 → 20+5+10+7 → 30 + 12 = 42

33 + 48 → 30+3+40+8 → 70 + 11 = 81

49 + 29 → 40+9+20+9 → 60 + 18 = 78

19 + 44 → 10+9+40+4 → 50 + 13 = 63

49 + 38 → 40+9+30+8 → 70 + 17 = 87

25 + 29 → 20+5+20+9 → 40 + 14 = 54

54 + 48 → 50+4+40+8 → 90 + 12 = 102

38

28 + 29 → 20+8+20+9 → 40 + 17 = 57

16 + 27 → 10+6+20+7 → 30 + 13 = 43

55 + 25 → 50+5+20+5 → 70 + 10 = 80

57 + 19 → 50+7+10+9 → 60 + 16 = 76

Write the answers.

23 + 17 = 40 71 + 29 = 100

46 + 14 = 60 55 + 35 = 90

35 + 15 = 50 42 + 28 = 70

39

MENTAL STRATEGIES

Make each pair of number cards add up to 10.

4 6 | 1 9 | 2 8 | 5 5

7 3 | 6 4 | 7 3 | 8 2

Find pairs that add up to 10 to help you answer these.

2 + 9 + 8 + 1 = 20 (10, 10)

1 + 3 + 2 + 8 + 9 + 6 + 4 = 33

5 + 7 + 3 + 9 + 8 + 2 + 1 = 35

5 + 2 + 5 + 5 = 17

Treat each 9 as a 10 then take away the extra 1s at the end.

7 + 9 = 7 + 10 − 1 = 16

14 + 9 = 14+10−1=23

28 + 9 = 28+10−1=37

35 + 9 = 35+10−1=44

40

Calculate the following.

LEVEL 1

5 + 4 = 9 | 11 + 12 = 23 | 7 + 9 = 16

6 + 5 = 11 | 9 + 8 = 17 | 5 + 7 = 12

8 + 7 = 15 | 6 + 7 = 13 | 12 + 8 = 20

11 + 10 = 21 | 10 + 12 = 22 | 13 + 7 = 20

LEVEL 2

6 + 14 = 20 | 10 + 15 = 25 | 26 + 34 = 60

9 + 11 = 20 | 17 + 20 = 37 | 23 + 27 = 50

15 + 5 = 20 | 18 + 22 = 40 | 32 + 48 = 80

17 + 13 = 30 | 22 + 28 = 50 | 15 + 55 = 70

LEVEL 3

16 + 24 = 40 | 48 + 52 = 100 | 29 + 38 = 67

28 + 32 = 60 | 27 + 33 = 60 | 14 + 27 = 41

46 + 24 = 70 | 32 + 28 = 60 | 81 + 19 = 100

35 + 15 = 50 | 79 + 21 = 100 | 57 + 43 = 100

42

ADD TO 100

Fill in the blanks.

+ 95 = 100

+ 97 = 100

+ 93 = 100

+ 88 = 100

+ 94 = 100

+ 85 = 100

+ 91 = 100

+ 80 = 100

43

SUBTRACTION

Arithmetic is easier when the sum is broken down into smaller bits.

73 − 7 = 66

73 − 3 − 4

70 − 4 = 66

Write in the missing numbers and find the answers.

65 − 9 = 56

65 − 5 − 4

60 − 4 = 56

52 − 8 = 44

52 − 2 − 6

50 − 6 = 44

44

52 − 9 = 43

52 − 2 − 7

50 − 7 = 43

75 − 8 = 67

75 − 5 − 3

70 − 3 = 67

91 − 6 = 85

91 − 1 − 5

90 − 5 = 85

88 − 9 = 79

88 − 8 − 1

80 − 1 = 79

82 − 6 = 76

82 − 2 − 4

80 − 4 = 76

63 − 5 = 58

63 − 3 − 2

60 − 2 = 58

91 − 9 = 82

91 − 1 − 8

90 − 8 = 82

57 − 8 = 49

57 − 7 − 1

50 − 1 = 49

45

Write the answers.

96 − 8 = 88 74 − 6 = 68

52 − 9 = 43 61 − 7 = 54

75 − 6 = 69 44 − 9 = 35

Use a strategy to find the answers.

55 − 27 = 28 → 55 − 20 − 7 → 35 − 5 − 2 → 30 − 2 = 28

43 − 28 = 15 → 43 − 20 − 8 → 23 − 3 − 5 → 20 − 5 = 15

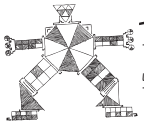
88 − 39 = 49 → 88 − 30 − 9 → 58 − 8 − 1 → 50 − 1 = 49

73 − 35 = 38 → 73 − 30 − 5 → 43 − 3 − 2 → 40 − 2 = 38

46

Fraction Man is here to introduce...

.....FRACTIONS....



– A FRACTION IS A PART OF SOMETHING!!!

This square is divided into 4 parts with 1 part shaded. Therefore $\frac{1}{4}$ is shaded.

Write the fraction that is shaded.

$\frac{1}{2}$ $\frac{2}{5}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{1}{5}$ $\frac{2}{4}$ or $\frac{1}{2}$ $\frac{3}{4}$

47

FRACTIONS

What fraction of each shape is shaded?

$\frac{3}{10}$ $\frac{3}{5}$ $\frac{4}{9}$ $\frac{3}{4}$

$\frac{5}{20} = \frac{1}{4}$ $\frac{5}{15} = \frac{1}{3}$ $\frac{5}{10} = \frac{1}{2}$

$\frac{2}{5}$ $\frac{2}{10} = \frac{1}{5}$ $\frac{16}{20} = \frac{4}{5}$

48

Shade in each of these shapes to show the FRACTION.

Have an adult check your answer

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

Circle each shape below that is half shaded.

49

FRACTIONS

Shade the shape to show the fraction.

one half

two thirds

one quarter

one fifth

one tenth

five sixths

50

MORE FRACTIONS

Colour each fraction.

Compare the two rectangles and fill in the missing sign with greater than (>), less than (<) or equals (=).

$\frac{2}{4} > \frac{1}{8}$ $\frac{1}{4} < \frac{3}{8}$

$\frac{3}{4} > \frac{1}{2}$ $\frac{4}{8} = \frac{1}{2}$

$\frac{2}{3} > \frac{1}{2}$ $\frac{3}{5} < \frac{3}{4}$

51

ESTIMATING NUMBERS

Write what you think the number in each of the boxes would be.

0 5 10

30 36 40 60 68 80

150 170 210 240 250

400 425 445 470 485 500

Mark on the number line below where you think the following numbers would be: 5, 12, 27, 33 and 39.

0 10 20 30 40

5 12 27 33 39

52

HALF WAY BETWEEN

Write in the numbers that are halfway between.

1 3 5 3 6 9

10 30 50 30 60 90

100 300 500 300 600 900

4 7 10 1 4 7

40 70 100 10 40 70

400 700 1000 100 400 700

2 6 10 2 4 6

52 56 60 92 94 96

182 186 190 332 334 336

53

DIVISIONS BETWEEN

Write the missing numbers on each number line.

0 50 100

0 10 20 30

0 10 20 30 40 50 60 70 80

0 4 8 12 16 20

0 12 24 36 48 60

0 7 14 21 28 35 42 49 56 63 70

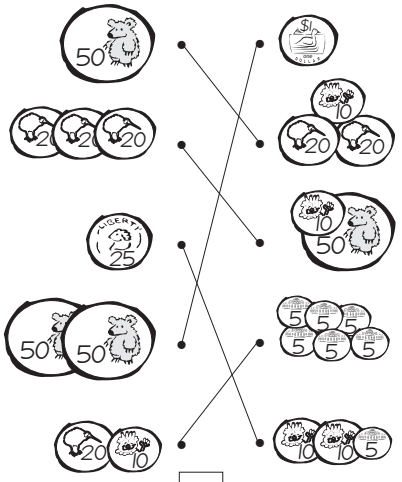
0 25 50 75 100

0 15 30 45 60 75 90

54

MONEY EQUIVALENTS

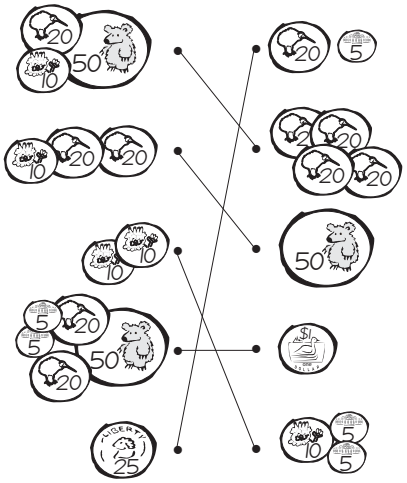
Different countries have different types of coins. Here are the most popular. Draw a line to show each equivalent value.



55

MONEY EQUIVALENTS

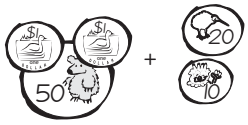
Draw a line to show each equivalent value of coins.



56

ADDING MONEY

 = 0.60

 = 2.80

 = 1.40

 = 3.40

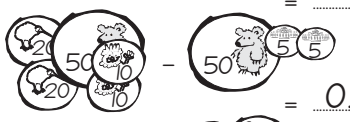
57

SUBTRACTING MONEY

 = 0.15

 = 0.30

 = 1.00

 = 0.50

 = 0.20

58

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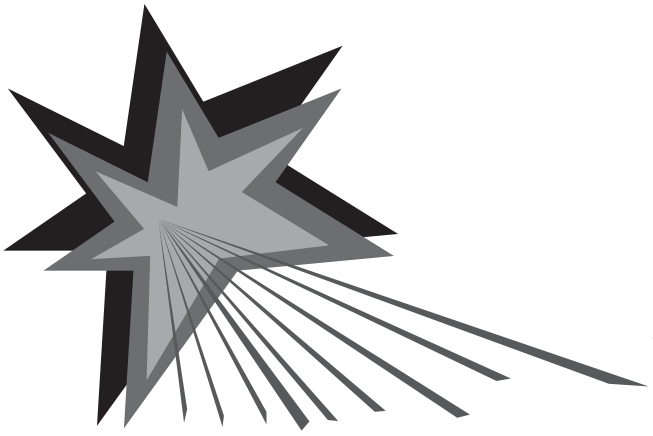

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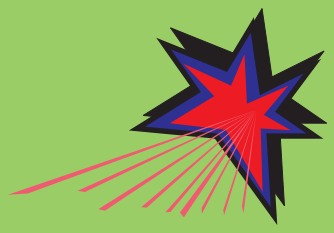

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