1

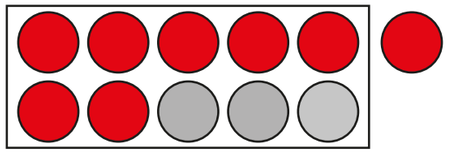
# How shall I add?

## 4 + 1, 6 + 3, 10 + 4
Number facts
Single digit numbers
Doubles
Ten and single digits

I just knew it!

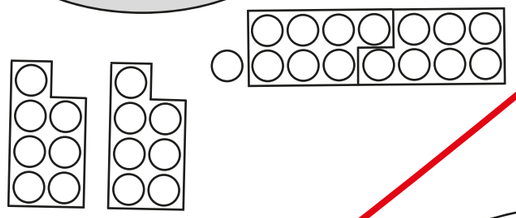
## 3 + 7
Use known addition facts

If I know 3 + 7 = 10
then I know
3 + 8 = 11
because it is 1 more

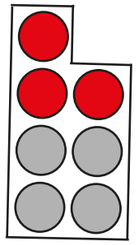


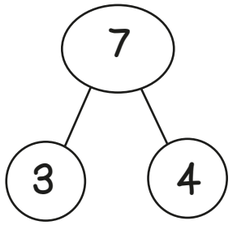
## 7 + 8
Use near doubles

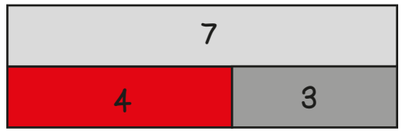
If I know 7 + 7 = 14
then I know
7 + 8 = 15
because it is 1 more



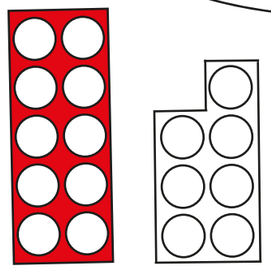
## 7 = 3 + 4
Secure addition bonds of single digits and ten

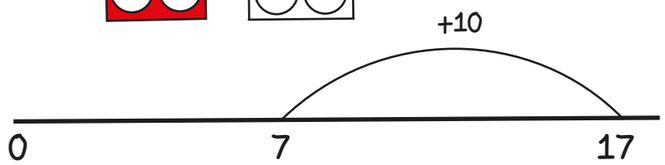




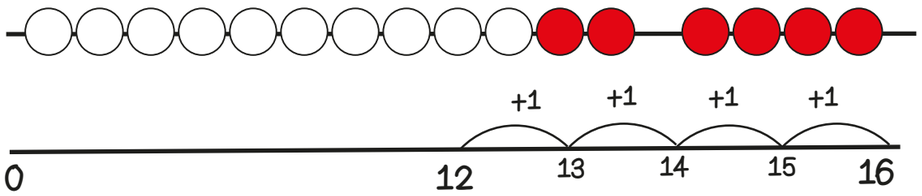




## 7 + 10
Add ten





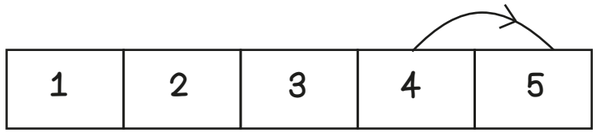

## 12 + 4
Counting on in 1s

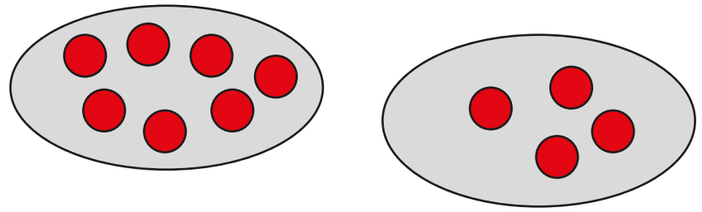



Notice the relationships

## 24 + 1
Find one more

1 more than 4 is 5
1 more than 14 is 15
1 more than 24 is 25



## 7 + 4
Count all

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1

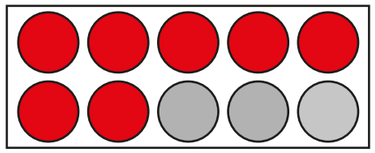
# How shall I subtract?

5 - 1, 7 - 3, 10 - 6
Number facts
Single digit numbers
Teens subtract single digits

I just knew it!

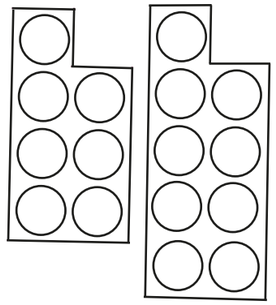
3 + 7
Use known addition facts to derive subtraction facts

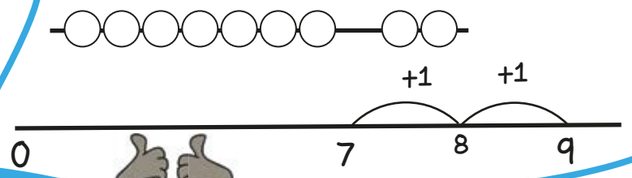
If I know 3 + 7 = 10 then I know 10 - 3 = 7



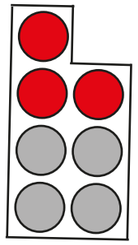
9 - 7
Find the difference between two numbers

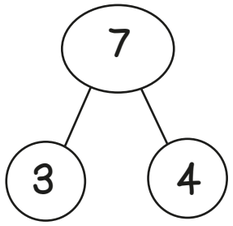
9 is 2 more than 7
7 is 2 less than 9 so the difference between 7 and 9 is 2



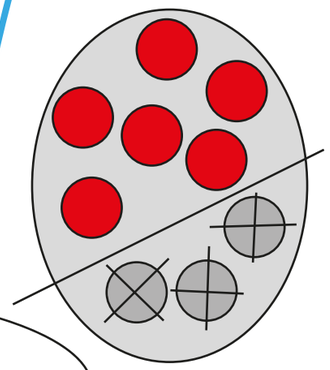



7 - 3 = 4
Secure subtraction facts of single digits and ten



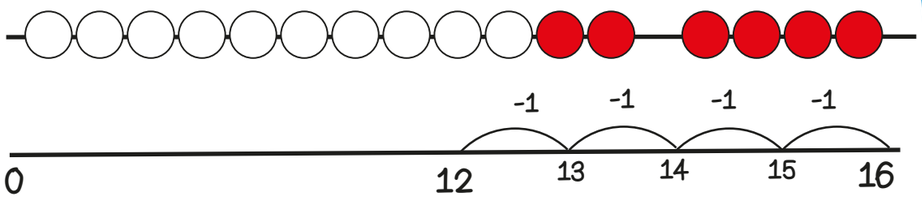



| 7 | |
|---|---|
| 4 | 3 |



9 - 3
Take away

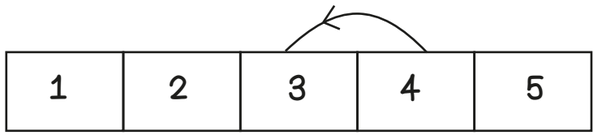
16 - 4
Counting back in 1s



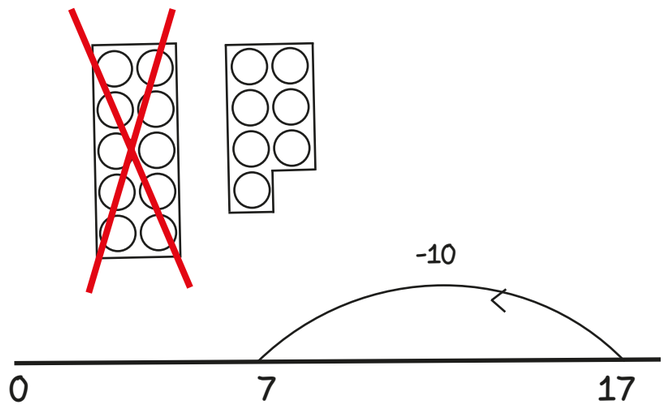

Notice the relationships

23 - 1
Find one less

1 less than 4 is 3
1 less than 14 is 13
1 less than 24 is 23




17 - 10
Take away ten

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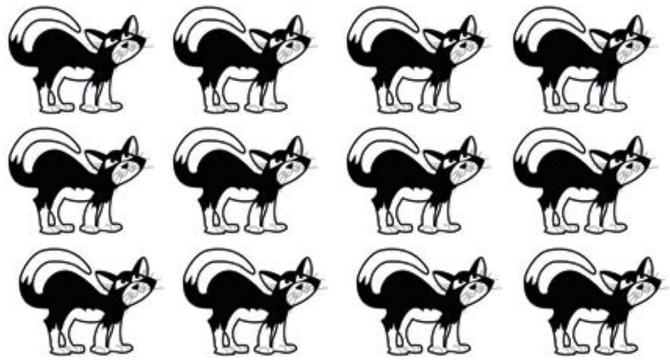
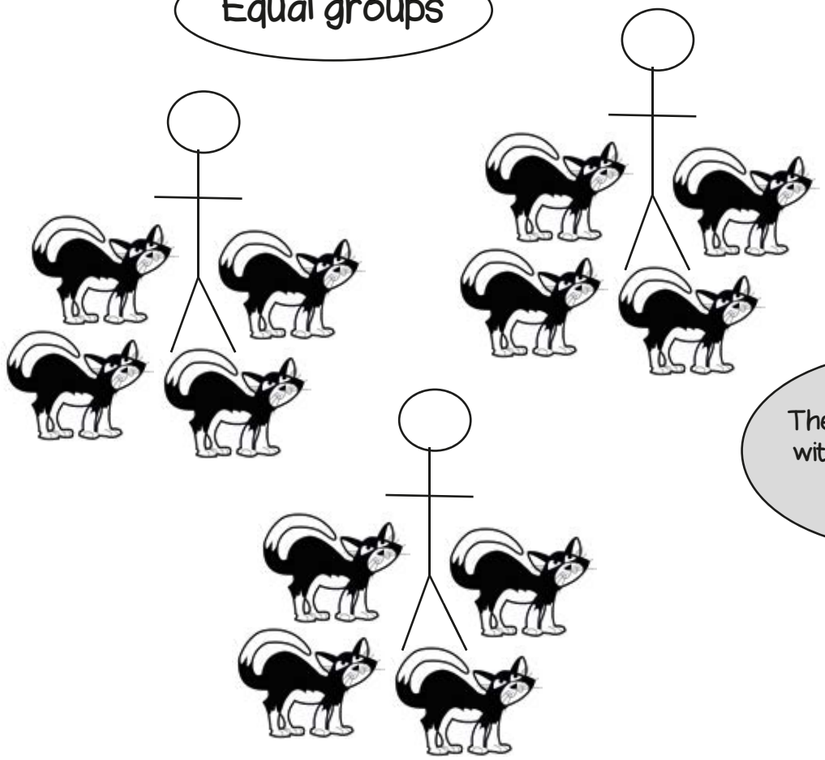
# How shall I multiply?

3 people each have 4 cats.
How many cats are
there in total?



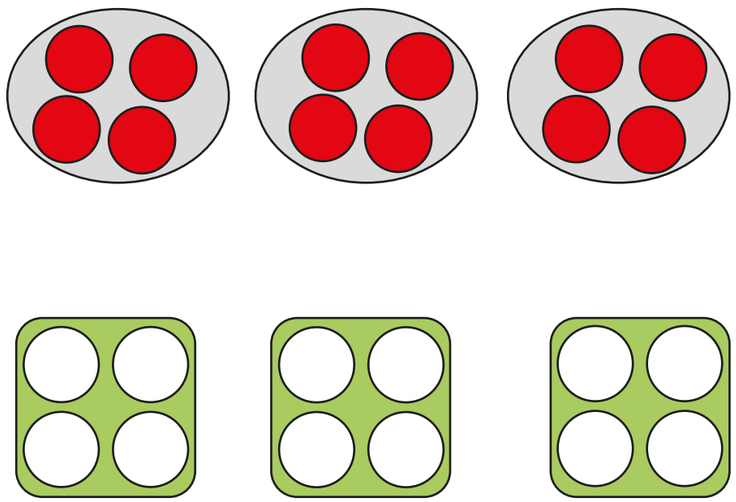
## Equal groups



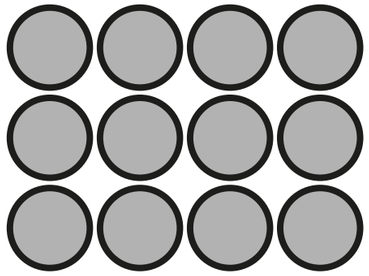
There are 3 groups
with 4 cats in each
group

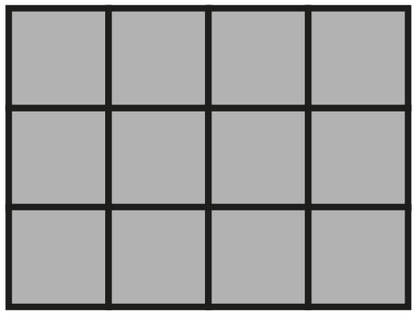
## Count in ones

1,2,3,4,5,6,7,8,9,10,11,12

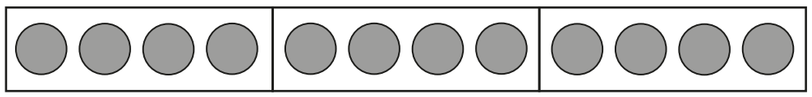


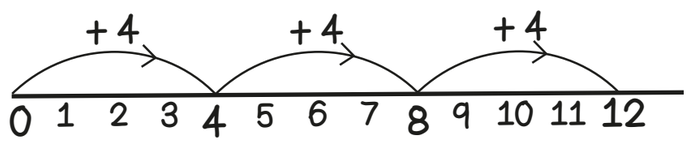
## Arrays





## Repeated addition






$4 + 4 + 4 = 12$

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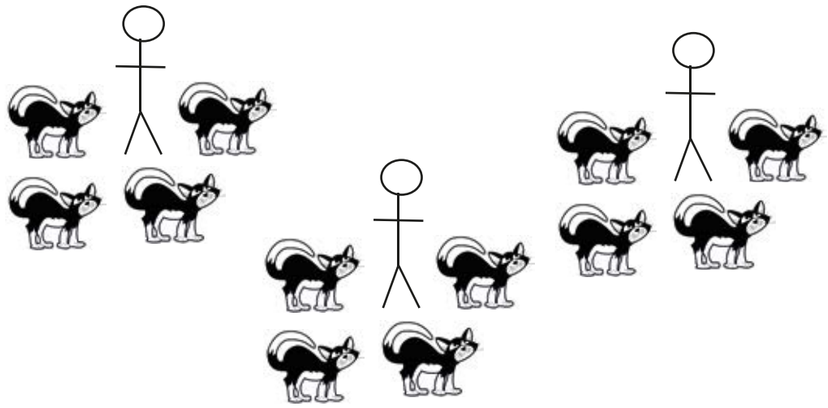
# How shall I divide?

$12 \div 3 = 4$

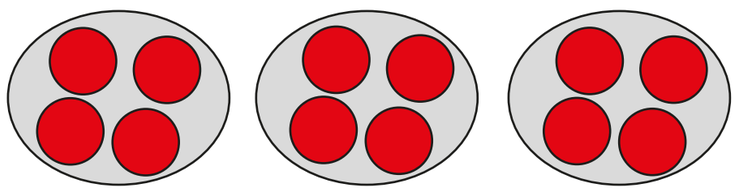
## Sharing

12 shared into 3 equal groups

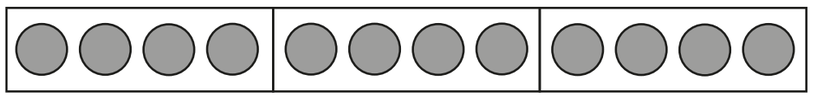
There are 12 cats.
Three people each have the same number of cats.
How many do they have each?

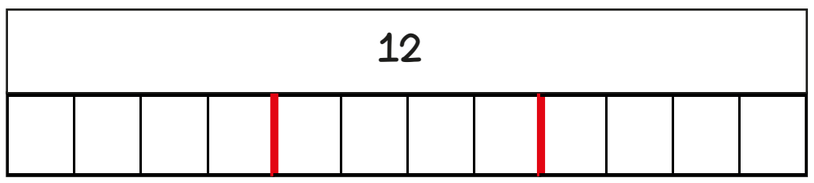


1 for you, 1 for you, 1 for you...

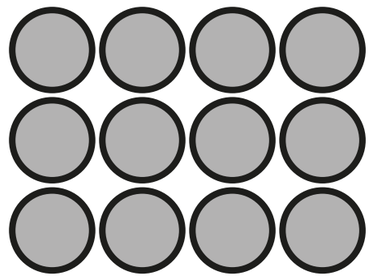


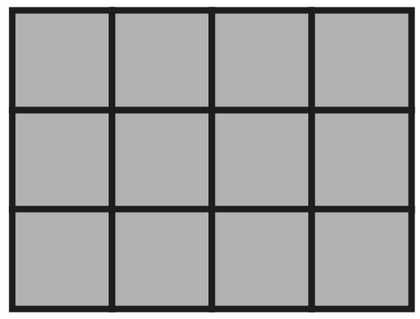
Bar model






12 can be described as
3 columns of 4
or 4 rows of three

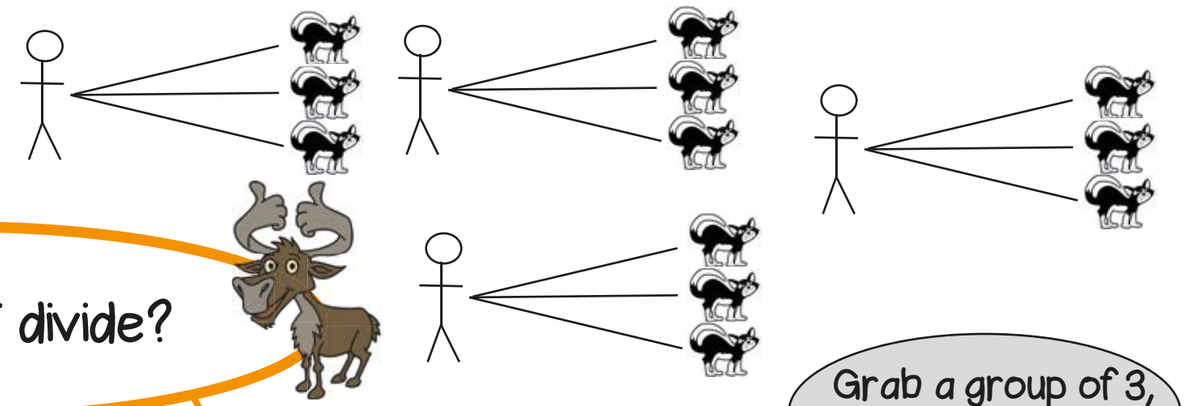




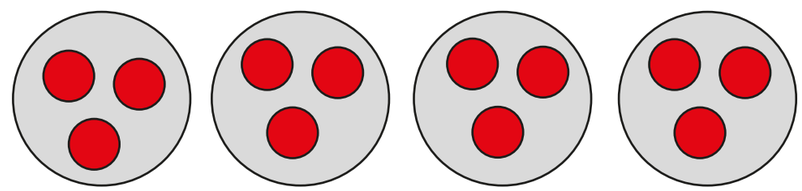
## Grouping

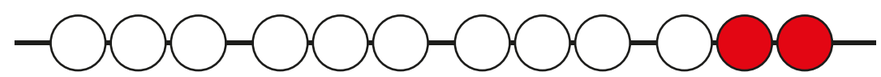
How many groups of 3 are there in 12?

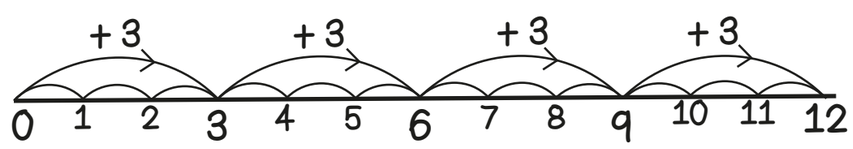
There are 12 cats.
Each person owns 3 cats.
How many people are there?



Grab a group of 3, grab a group of 3...





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# How shall I add?

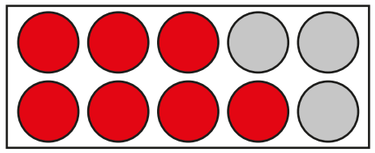
8 + 7, 9 + 9, 14 + 3
Number facts
Single digit numbers
Doubles
Teens and single digits

I just knew it!

13 + 17
Use known facts
30 + 70

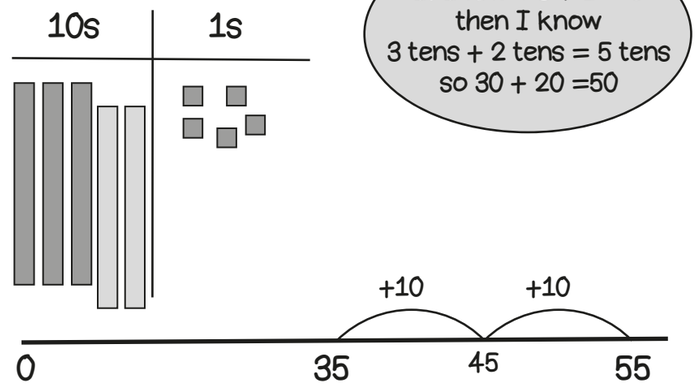
If I know 3 + 7 = 10
then I know
3 tens + 7 tens = 10 tens

If I know 3 + 7 = 10
then I know
13 + 17 is 2 tens more

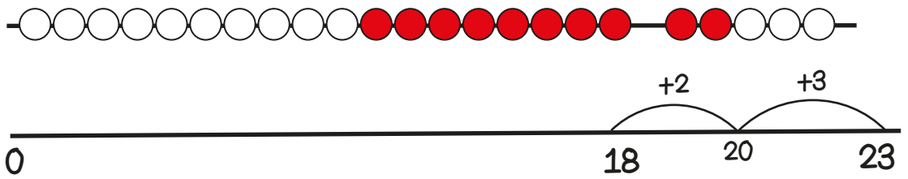


35 + 20
Add multiples of ten

If I know 3 + 2 = 5
then I know
3 tens + 2 tens = 5 tens
so 30 + 20 =50

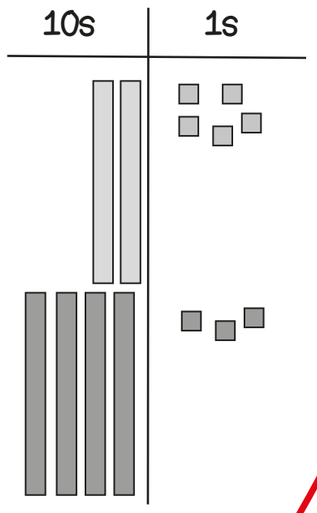


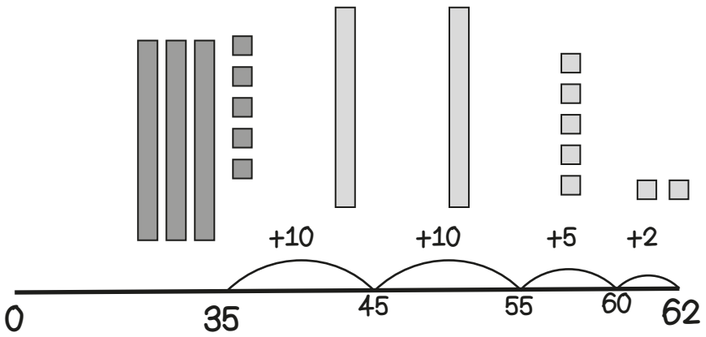

5 + 18
Greatest number first
then bridge




25 + 43
Partition and recombine

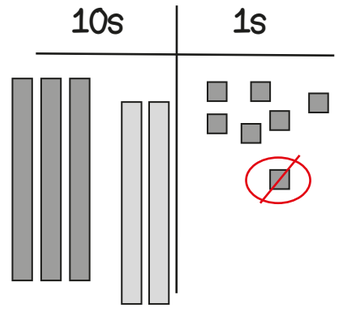
25 + 43
20 + 5 + 40 + 3
60 + 8 = 68



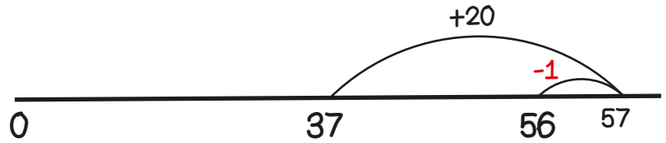




35 + 27
Count on in tens then ones

37 + 19
Round then adjust




Add 20 then subtract 1

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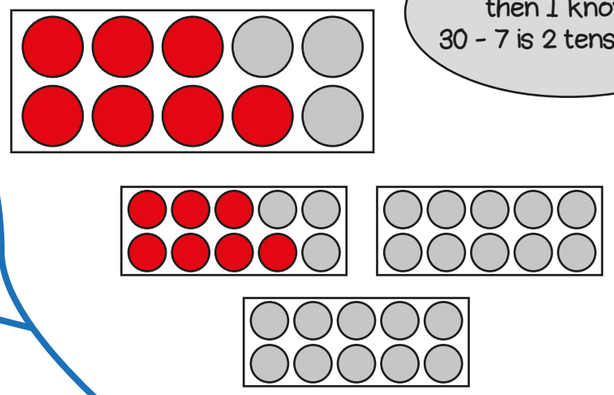
# How shall I subtract?

9 - 4, 13 - 5, 18 - 9
Number facts
Single digit numbers
Halves
Teens and single digits

I just knew it!

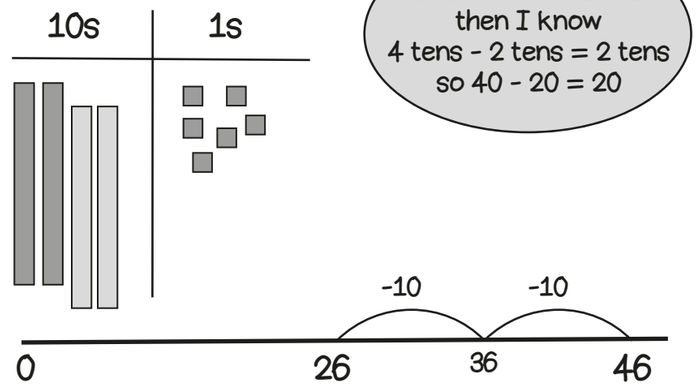
30 - 7
Use known facts
100 - 70

If I know 10 - 7 = 3
then I know
30 - 7 is 2 tens and 3

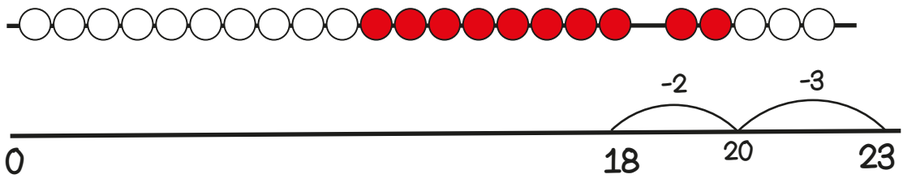


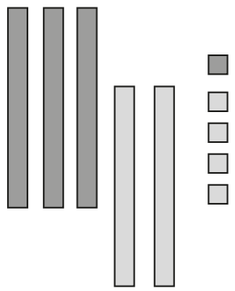
46 - 20
Count back: multiples of ten

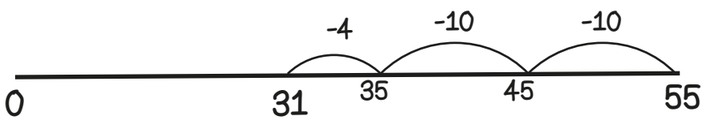
If I know 4 - 2 = 2
then I know
4 tens - 2 tens = 2 tens
so 40 - 20 = 20




23 - 5
Count back: bridge through
a multiple of ten



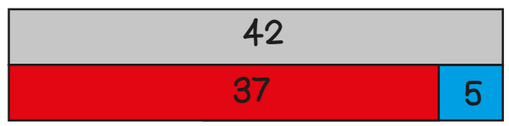



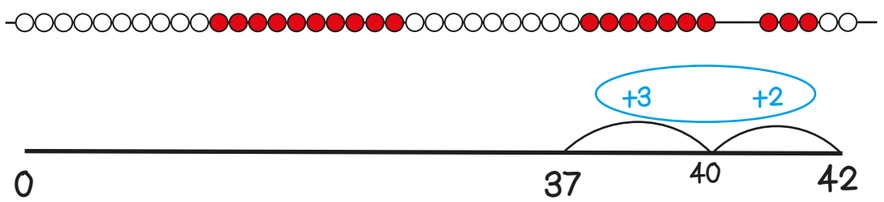



55 - 24
Count back in tens then ones

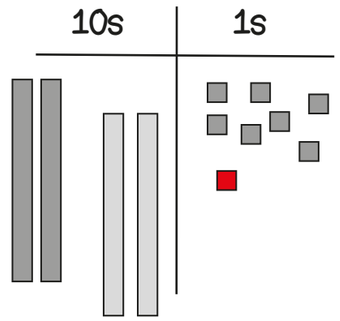
42 is 5 more than 37,
37 is 5 less than 42 so
the difference between
37 and 42 is 5

42 - 37
Find the difference between
two numbers

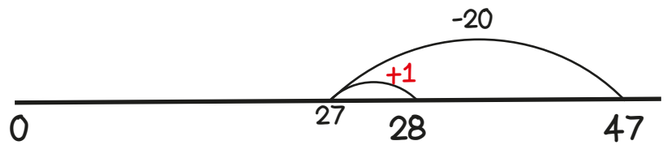



47 - 19
Round then adjust




Take away 20 then add 1

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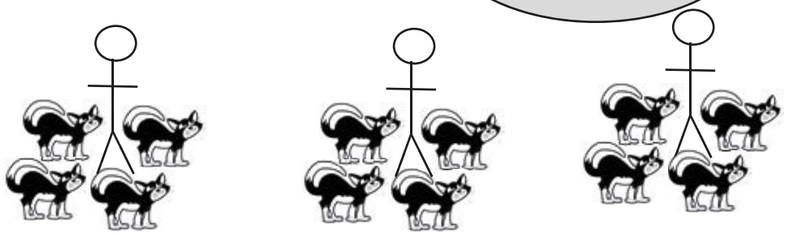
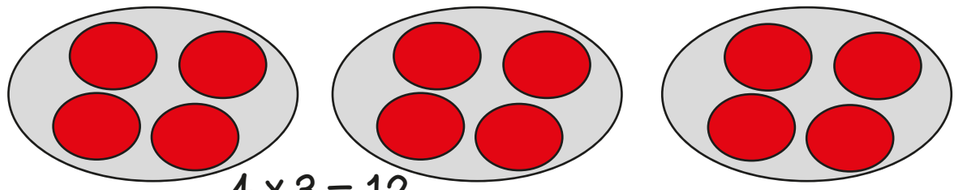
## Equal groups

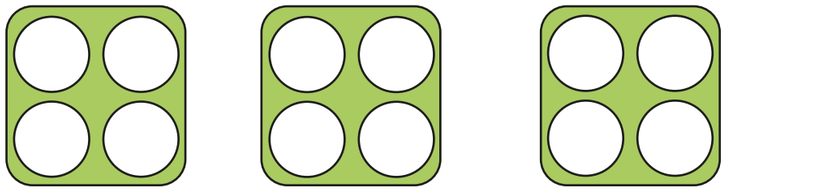
There are 3 groups with 4 cats in each group

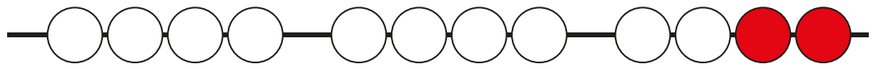


Four cats, multiplied by 3

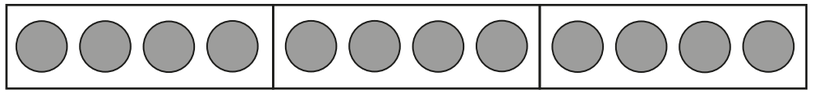


4 x 3 = 12

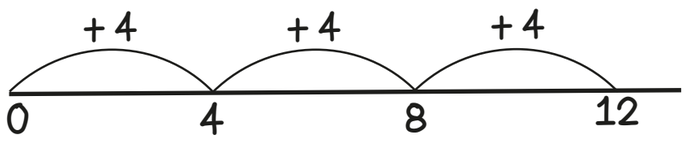




## Repeated addition



| | | |
|---|---|---|
| 4 | 4 | 4 |




4 + 4 + 4 = 12

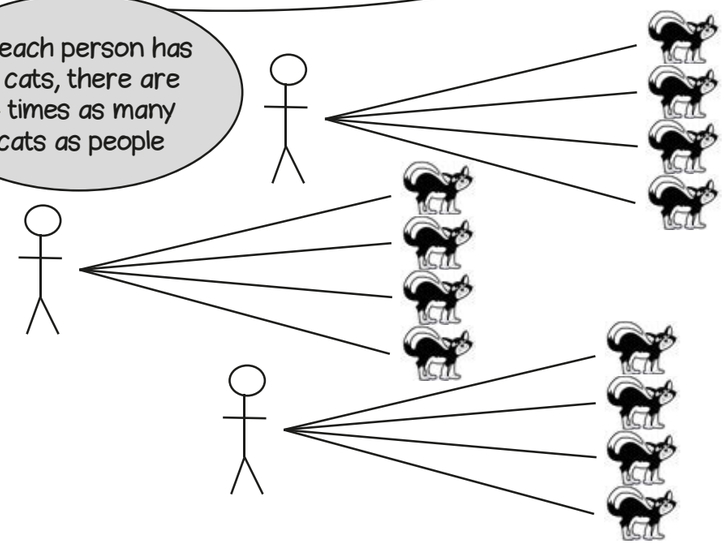
3 people each have 4 cats. How many cats are there in total?

Recall of 2x, 5x and 10x tables

| People | Cats |
|---|---|
| 1 | 4 |
| 2 | 8 |
| 3 | 12 |

## One to many correspondence

If each person has 4 cats, there are 4 times as many cats as people



## How shall I multiply?

### Count in ones

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

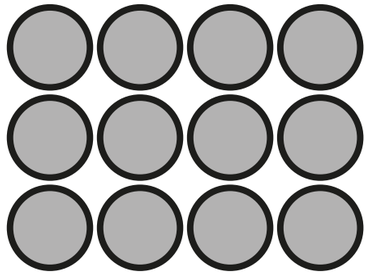
### Count in twos

2, 4, 6, 8, 10,12

### Use a known fact

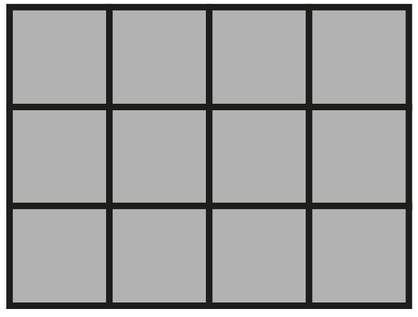
If 2 x 3 is 6, then
4 x 3 is double 6.

## Arrays



4 x 3 = 12

3 x 4 = 4 x 3



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# 12 ÷ 3 = 4

Recall and use 2x, 5x and 10x tables

## How shall I divide?

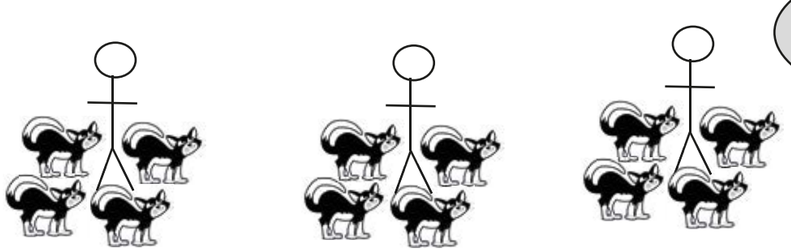
1 for you, 1 for you, 1 for you...

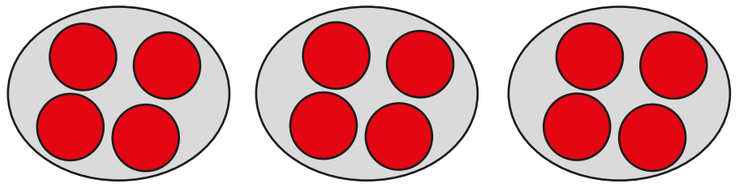
Grab a group of 3, grab a group of 3...

## Sharing

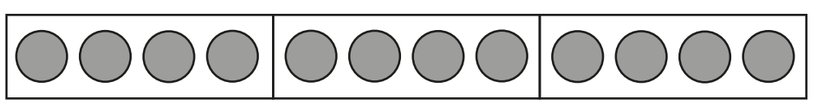
12 shared into 3 equal groups

There are 12 cats.
Three people each have the same number of cats.
How many do they have each?





### Bar model



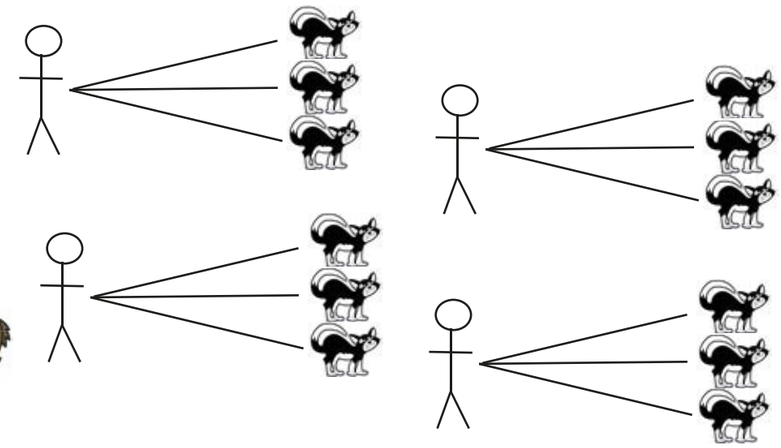
| 12 | | |
|---|---|---|
| 4 | 4 | 4 |

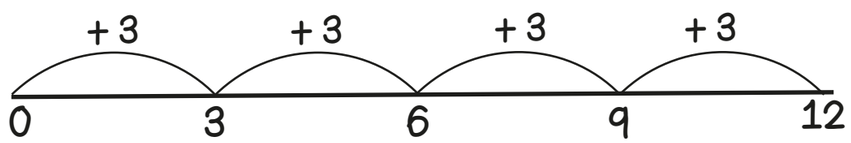
Link to fractions.
One third of 12 is 4

## Grouping

How many groups of 3 are there in 12?

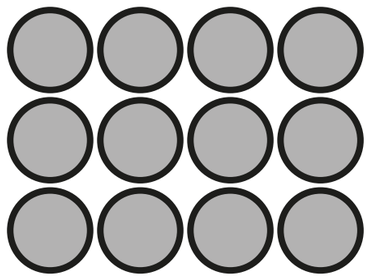
There are 12 cats.
Each person owns 3 cats.
How many people are there?

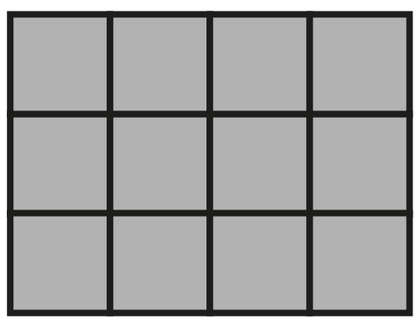





If I know 3 x 4 = 12
then I know 12 ÷ 3 = 4

12 can be described as
3 columns of 4
or 4 rows of three





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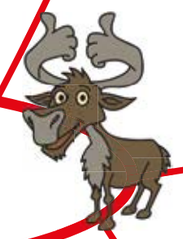
# How shall I add?



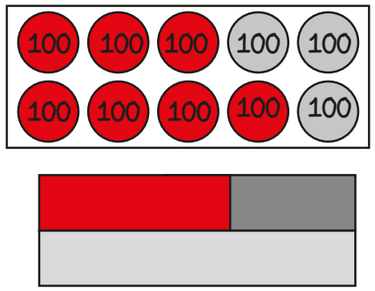
## 8 + 7, 9 + 9, 14 + 3
Number facts
Single digit numbers
Doubles
Tens to make 100

I just knew it!

## 243 + 7
Use known facts
300 + 700

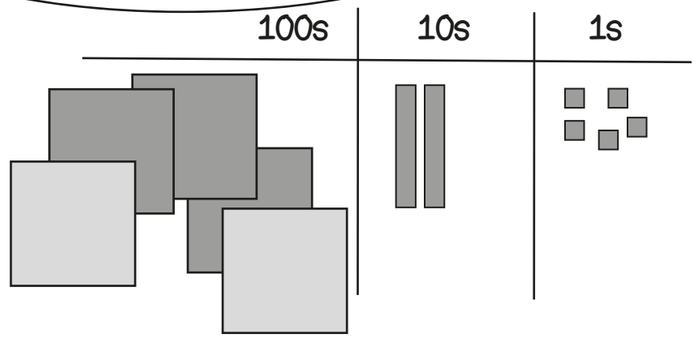
If I know 3 + 7 = 10 then I know 3 hundreds + 7 hundreds = 10 hundreds

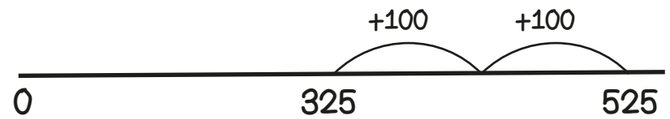
If I know 3 + 7 = 10 then I know 243 + 7 makes the next multiple of 10



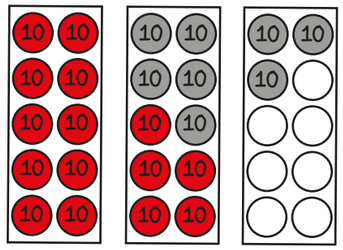

## 325 + 200
Add multiples of ten and hundred

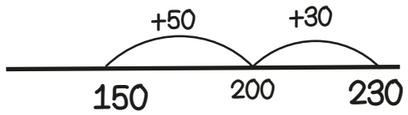
If I know 3 + 2 = 5 then I know 3 hundreds + 2 hundreds = 5 hundreds



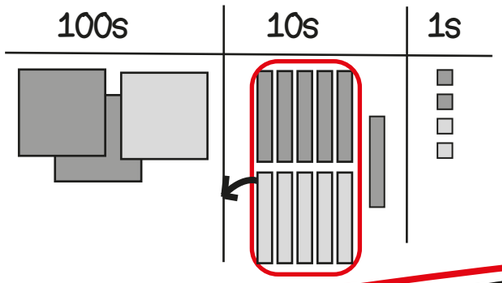




## 150 + 80
Bridging boundaries



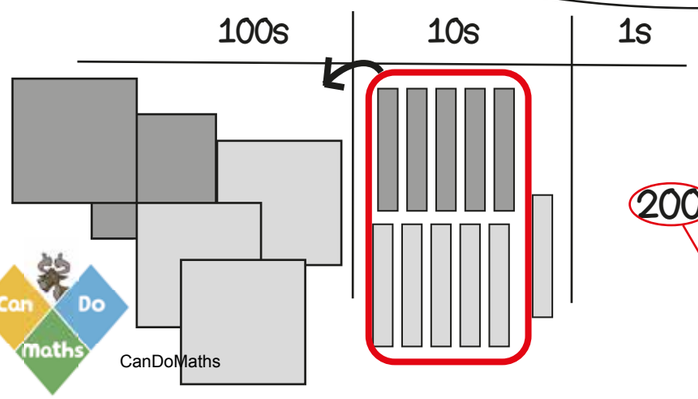

## 262 + 152
Formal written method




6 tens add 5 tens = 11 tens or 110

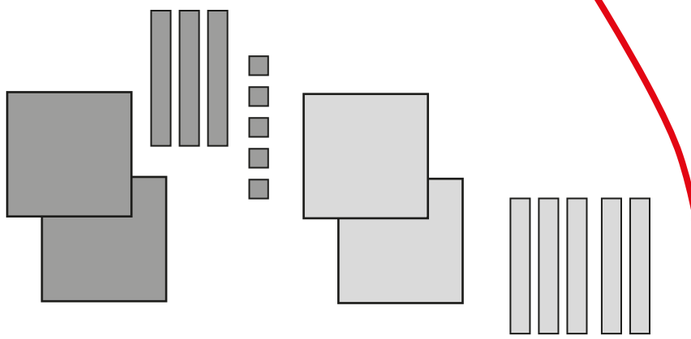
```
  2 6 2
+ 1 5 2
  4 1 4
  1
```

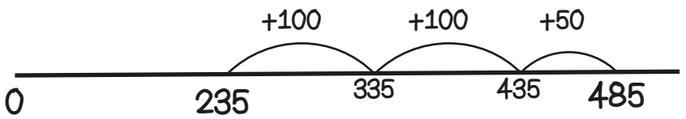
## 250 + 360
Partition and recombine




200 + 50 + 300 + 60

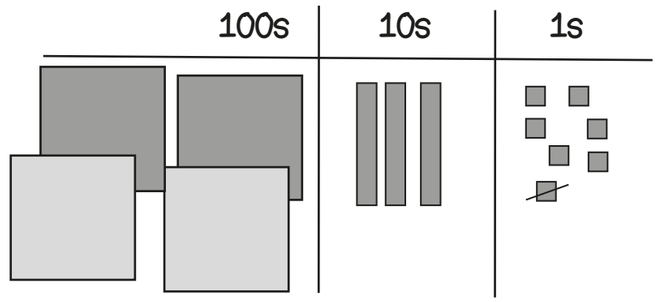
500 + 110 = 610






## 235 + 250
Count on in hundreds then tens

## 237 + 199
Round then adjust




Add 200 then subtract 1

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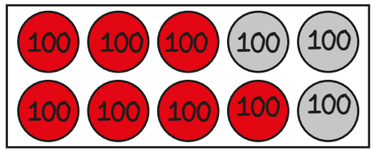
# How shall I subtract?

## 15 - 8, 18 - 5
Number facts
Single digit numbers
Teens and single digits

I just knew it!

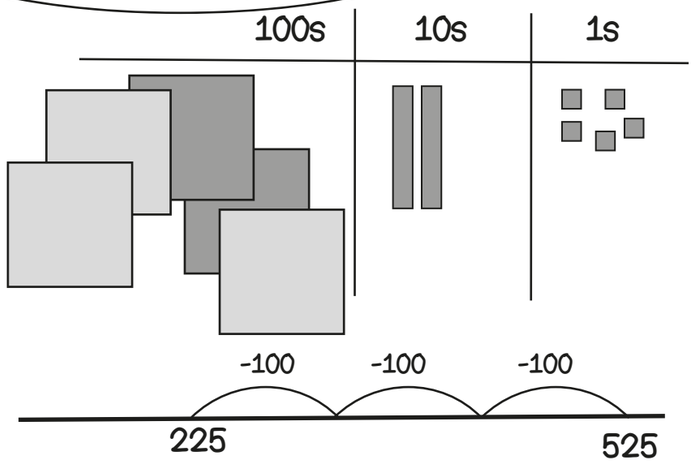
## 240 - 7
Use known facts
1000 - 700

If I know 10 - 7 = 3
then I know
10 hundreds - 7 hundreds
= 3 hundreds

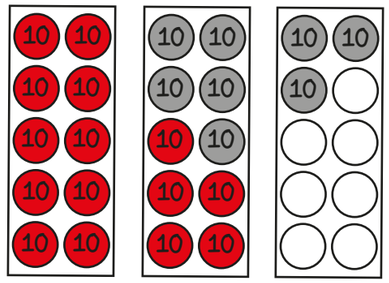



## 525 - 300
Take away multiples of ten
and a hundred

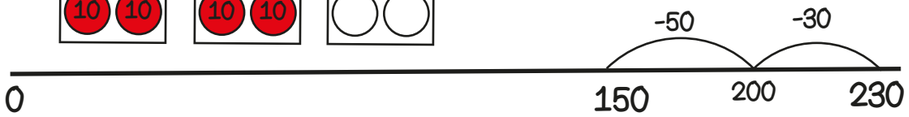
If I know 5 - 3 = 2
then I know
5 hundreds - 3 hundreds
= 2 hundreds




## 230 - 80
Bridging boundaries
by counting back in efficient steps




230 - 30 - 50 = 150



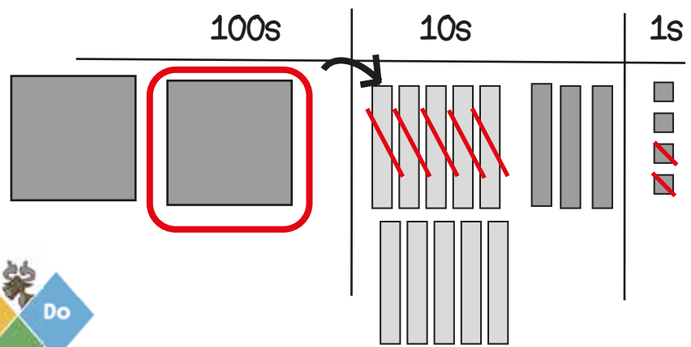

0 - 7 = 3

If I know 10 - 7 = 3
then I know
any multiple of 10,
take away 7 leaves
3 in the ones.

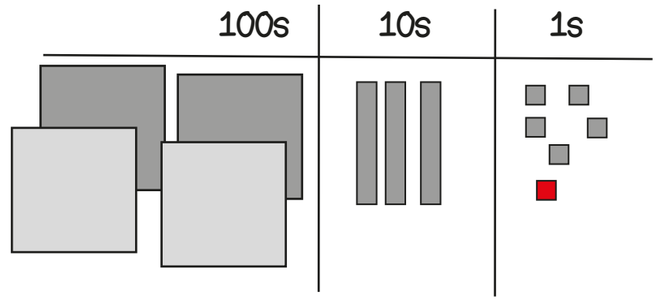
## 234 - 152
Formal written method

$$\begin{array}{r} {}^{1}\cancel{2}{}^{1}34 \\ -\,152 \\ \hline 82 \end{array}$$

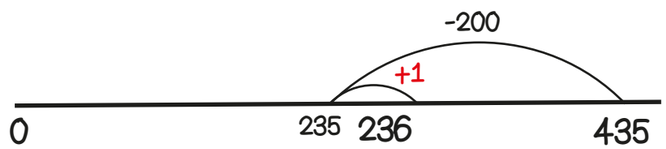
234 = 100 + 130 + 4

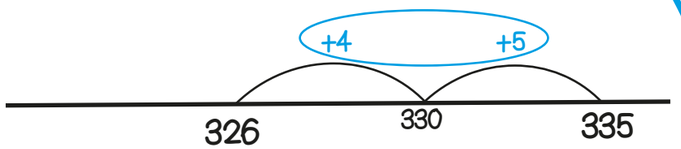



## 435 - 199
Round then adjust



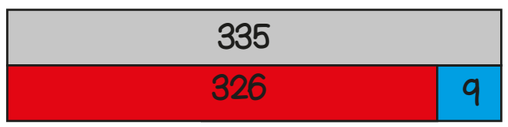

Take away 200 then add 1




## 335 - 326
Find the difference
between two numbers

335 is 9 more than 326
326 is 9 less than 335
so the difference between
them is 9

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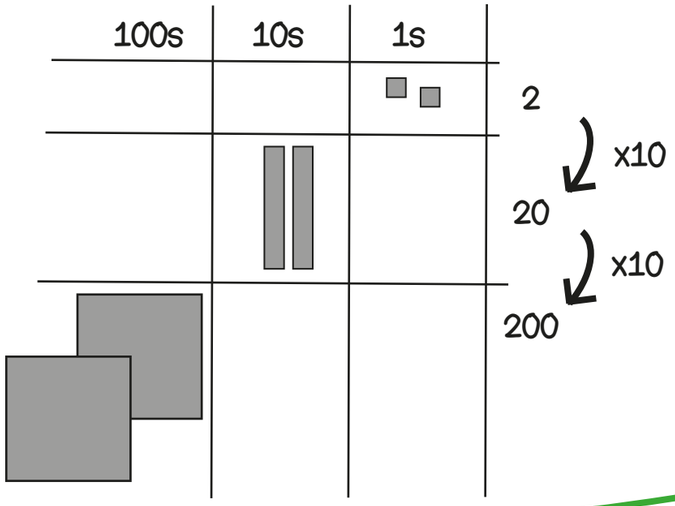
# How shall I multiply?

## Rapid recall of 2x, 5x, 10x (year 2) 3x, 4x, 8x (year 3) multiplication tables

## Multiply by 10

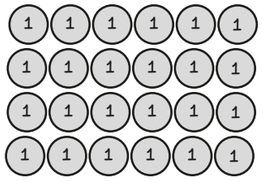


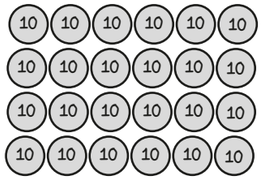

## 6 x 4 Use known facts and place value

40 is ten times greater than 4

6 x 4 = 24
60 x 4 = 240
6 x 40 = 240

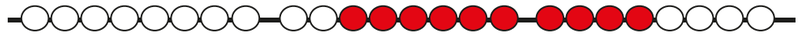
6 x 10 x 4
= 24 x 10

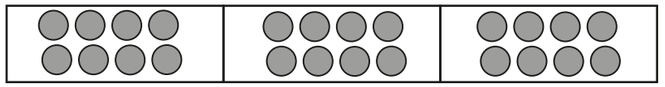


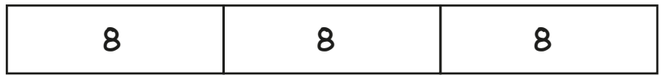


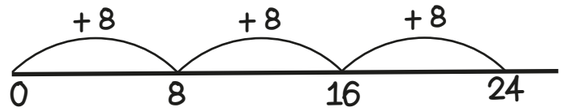
## 8 x 3 Repeated addition

8 + 8 + 8 =
3 + 3 + 3 + 3 + 3 + 3 + 3 + 3



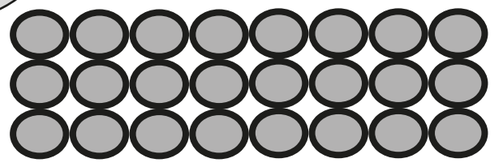




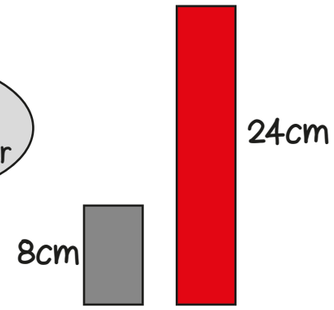

## Arrays

If I know 3 x 8 then I know 8 x 3



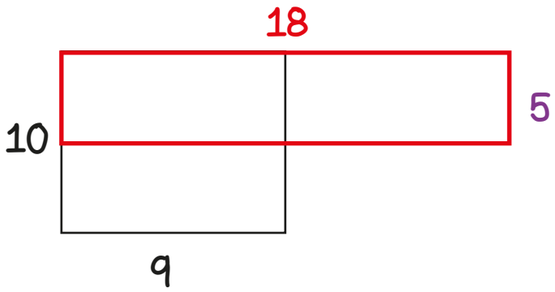
## Scaling

The red tower is 3 times taller than the grey tower



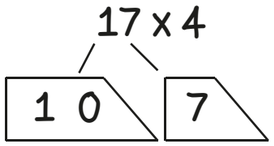

## 5 x 18 Double and halve

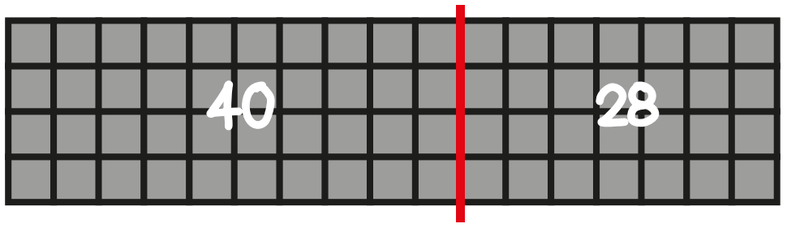
5 x 18
= 5 x 2 x 18 ÷ 2
= 10 x 9
= 90




## 17 x 4 Partition and recombine

10 x 4 + 7 x 4
40 + 28 = 68




## 17 x 4 Formal written method

| | 10 | 7 |
|---|---|---|
| 4 | 40 | 28 |

17
x 4
68
2

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# How shall I divide?

Known facts:
Use 2x, 5x, 10x (year 2)
3x, 4x, 8x (year 3)
multiplication tables to derive division facts

## 24 ÷ 4
## Use known facts and place value

240 is ten times greater than 24

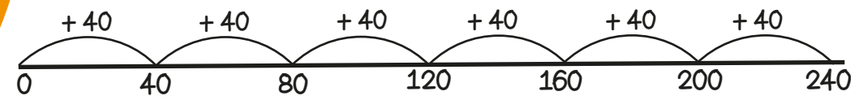
$24 \div 4 = 6$
$240 \div 40 = 6$
$240 \div 4 = 60$

24 biscuits shared between 4 people means they will get 6 biscuits each.
If there are 10 times as many people and 10 times as many biscuits, how many biscuits each now?

## 240 ÷ 40
## Repeated addition

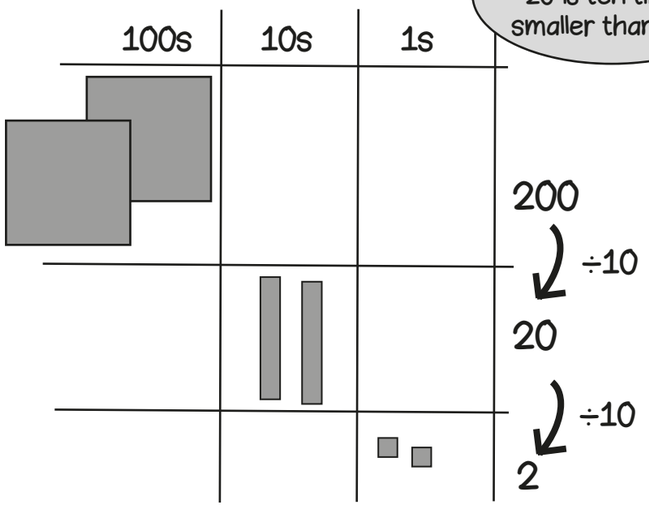
How many 40s are there in 240?

$240 \div 40 = 6$
How many steps of 40 make 240?




## 200 ÷ 10
## Divide by 10

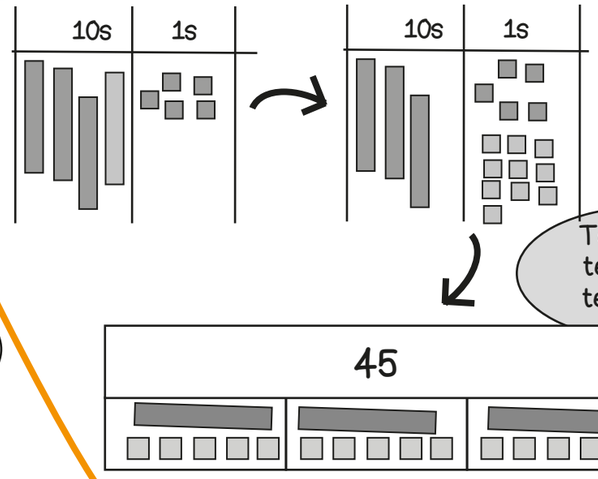
200 ÷ 10 = 20 so 20 is ten times smaller than 200




A tenth of ▮ is ■

A tenth of 1 is 1 tenth
so $1 \div 10 = \frac{1}{10}$

## 45 ÷ 3
## Sharing equally



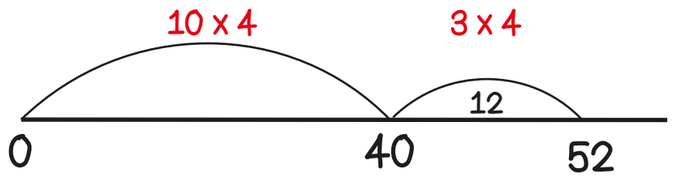

Ten for you, ten for you, ten for you...

Link to fractions

## 52 ÷ 4
## Partition and recombine

ten lots and the rest

52 ÷ 4
40 12
÷ 4 ÷ 4
10 + 3 = 13




## 42 ÷ 6
## Double and halve

If there are half as many biscuits and half as many people...

$42 \div 6 = 21 \div 3$

| 42 | | | | | |
|---|---|---|---|---|---|
| 7 | 7 | 7 | 7 | 7 | 7 |

| 21 | | |
|---|---|---|
| 7 | 7 | 7 |

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# How shall I add?

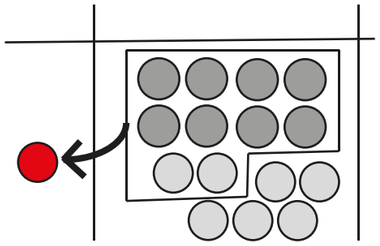
## 0.9 + 0.9, 74 + 26
Number facts
Single digit decimals
Doubles
Bonds of 100

I just knew it!

## 7 + 8
Use known facts

If I know 7 + 8 = 15
then I know
0.7 + 0.8 = 1.5

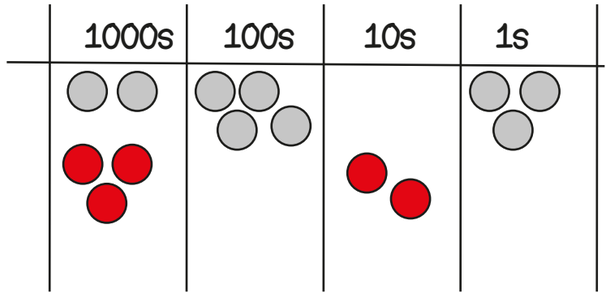
70 + 80 = 150
700 + 800 = 1,500



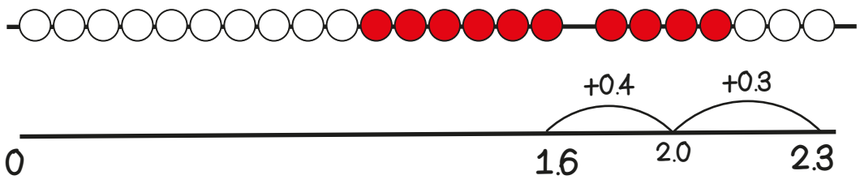
## 2,403 + 3,020
Use place value to add

If I know 2 + 3 = 5
then I know
2000 + 3000 = 5 000

I have noticed,
one number has no
hundreds or ones, the
other has no tens.



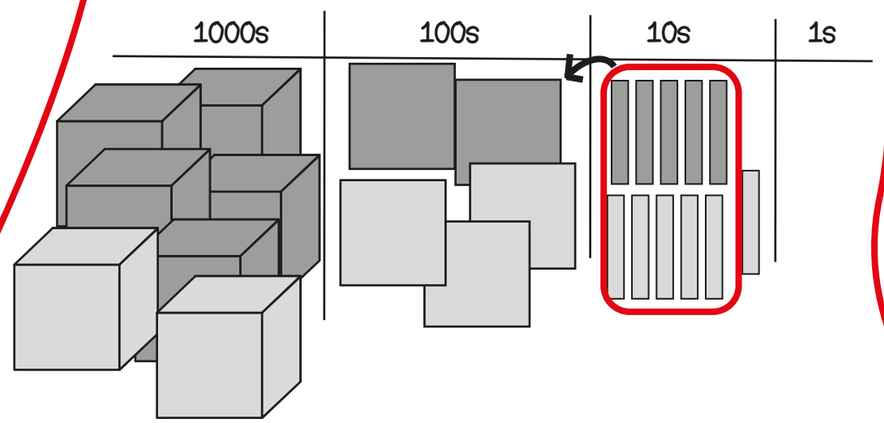

## 1.6 + 0.7
Bridge through boundaries
by counting in efficient steps



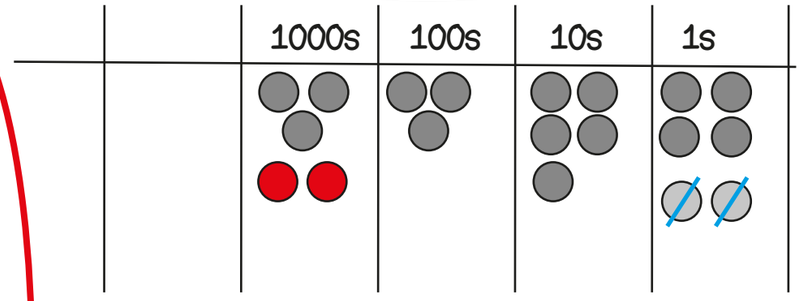

## 5,250 + 2,360
Partition and recombine

5000 + 200 + 50 + 2000 + 300 + 60

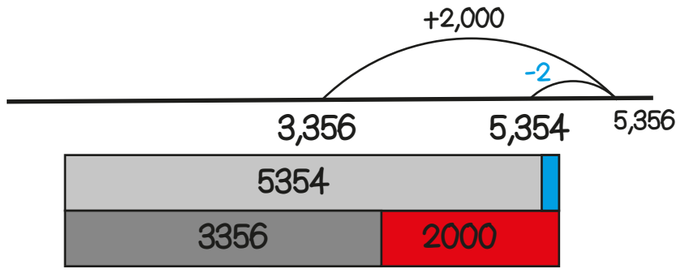
7000 + 500 + 110 = 7610




## 3,356 + 1,998
Round then adjust




Add 2,000 then take away 2




## 5,748 + 3,374
Formal written method

Exchange ten of these for one of those!

Regroup and rename

```
  5,748
+ 3,374
  9,122
  1 1 1
```

| | 1000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | | |

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# How shall I subtract?

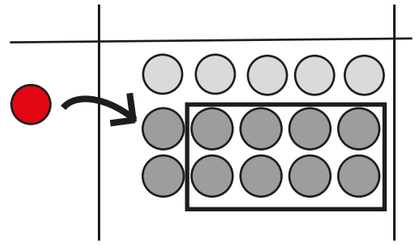
## 13 - 5, 1.8 - 0.8
Number facts
Single digit numbers
Halves
Wholes and tenths

I just knew it!

## 15 - 8 = 7
Use known facts

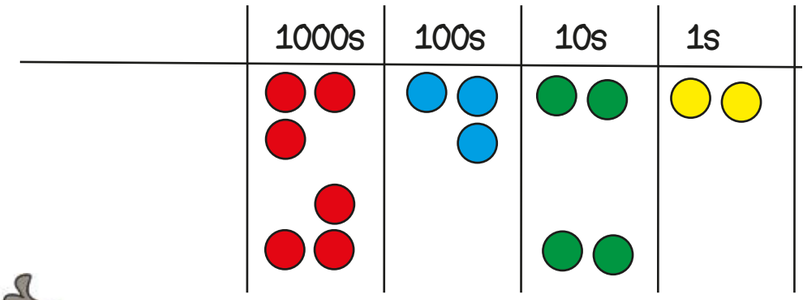
If I know 15 - 8 = 7 then I know 1.5 - 0.8 = 0.7

150 - 80 = 70
1500 - 800 = 700

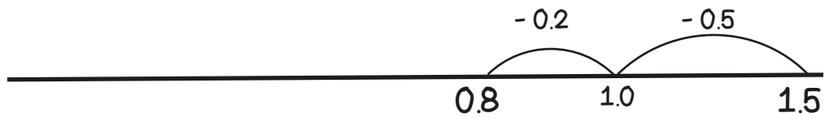


## 6,342 - 3,020
Use place value to subtract

By using place value counters it is easy to see how to take away




## 1.5 - 0.7
Bridge through boundaries
by counting in efficient steps




## 5,352 - 2,136
Formal written method

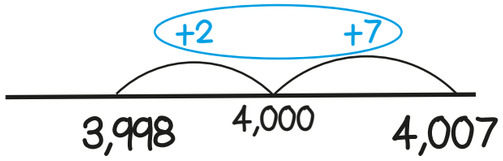
Exchange ten of these for one of those!

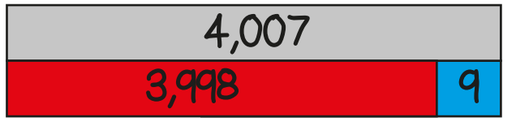
Regroup and rename

4 1 4 1
5,352
- 2,436
2,916

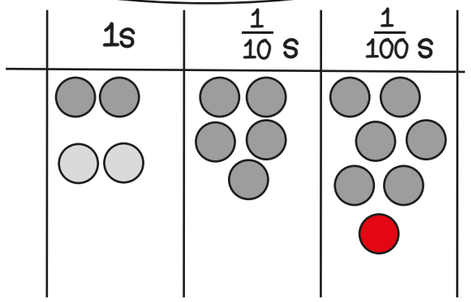
| 1000s | 100s | 10s | 1s |
|---|---|---|---|
| | | | |

## 4007- 3998
Find the difference between two numbers

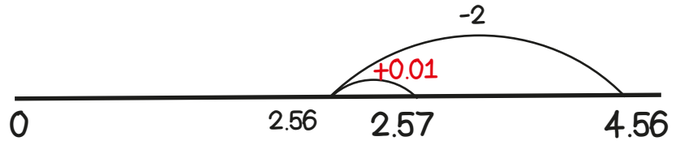



## 4.56 - 1.99
Round then adjust




Take away 2 then add one hundredth

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# How shall I multiply?

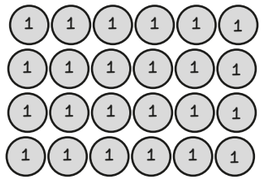
## Known facts:
Rapid recall of all multiplication tables up to 12 x 12

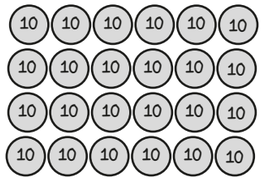
## 6 x 4
Use known facts and place value

40 is ten times greater than 4

6 x 4 = 24
60 x 4 = 240
60 x 40 = 2400

6 x 10 x 4 x 10
= 24 x 100

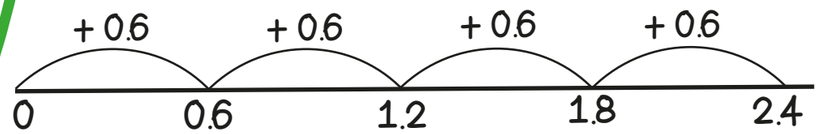




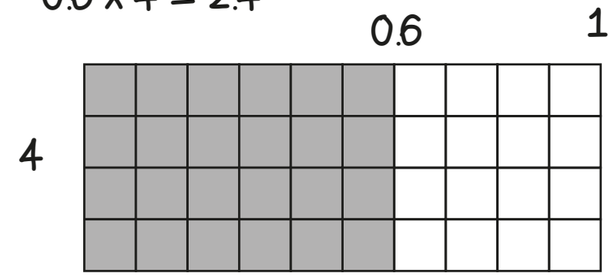
## 6 x 4
Use known facts and place value

0.6 is ten times smaller than 6

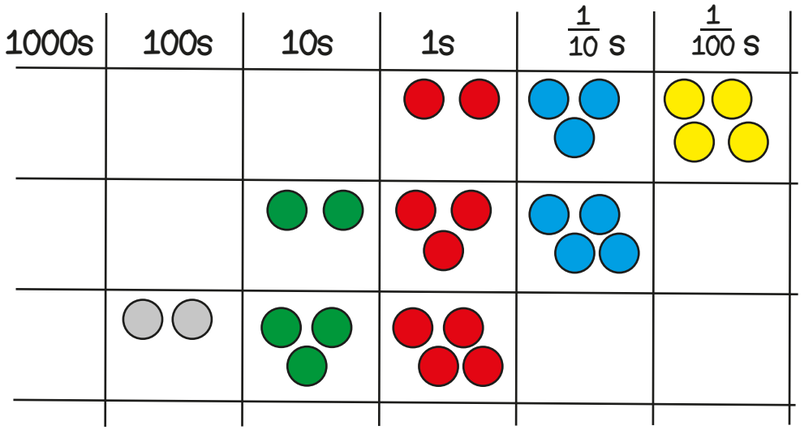
0.6 x 4 = 2.4
4 jumps of 0.6




0.6 x 4 = 24 tenths
0.6 x 4 = 2.4

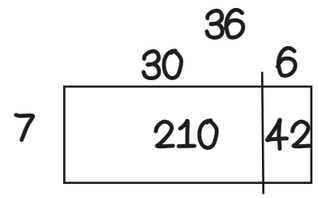



## 2.34 x 100
Multiply by 10, 100




## 7 x 36
Use the distributive law

7 x 36
= 7 x 30 + 7 x 6
= 210 + 42
= 252




236 x 7

| 200 | 30 | 6 |
|---|---|---|
| x7 | x7 | x7 |

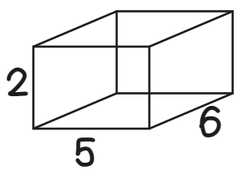
1400 + 210 + 42 = 1652

## 36 x 7
Formal written method

| | 30 | 6 |
|---|---|---|
| 7 | 210 | 42 |

36
x 7
252
4

## 45 x 6
Use factors and commutativity




2 x (5 x 6) = (2 x 5) x 6
2 x 30 = 10 x 6

Write as factors then re-order

45 x 6
= 5 x 9 x 6
= 5 x 6 x 9
= 30 x 9
= 270

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# How shall I divide?

Known facts:
Use recall of all multiplication tables up to 12 x 12 to derive division facts

## 24 ÷ 4
Use known facts and place value

240 is ten times greater than 24

$24 \div 4 = 6$
$240 \div 40 = 6$
$2400 \div 400 = 6$

$2400 \div 400 = \frac{24 \times 100}{4 \times 100}$

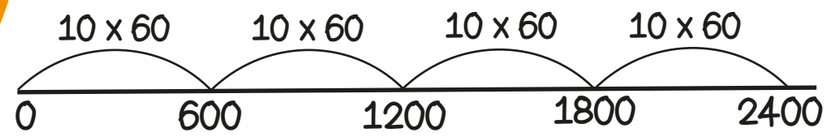
$\frac{24}{4} = 6$

24 biscuits shared between 4 people means they will get 6 biscuits each.
If there are 100 times as many people and 100 times as many biscuits, how many biscuits each now?

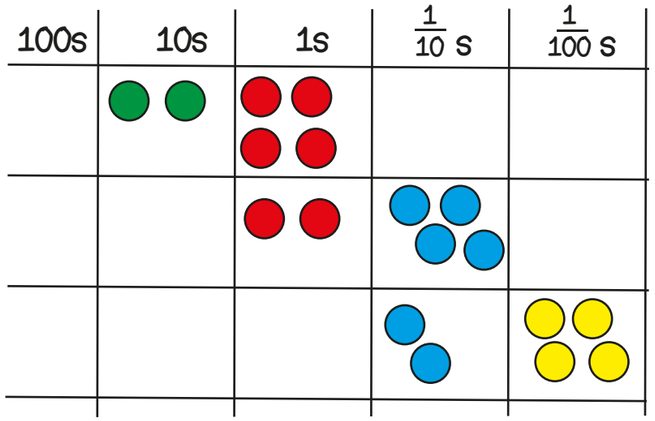
## 2400 ÷ 60
Use known facts and place value

60 is ten times greater than 6

$2400 \div 60 = 40$
How many steps of 60 make 2400?

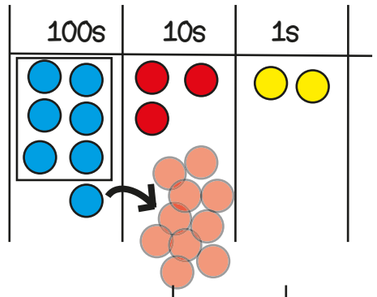



## 24 ÷ 100
Divide by 10, 100

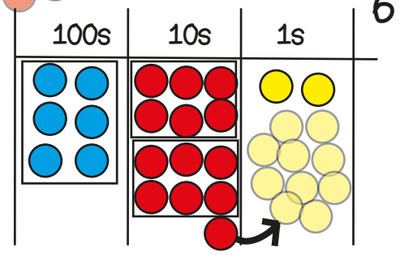



24
÷10
2.4
÷10
0.24
÷100

## 732 ÷ 6
Formal written method




$$\begin{array}{r} 1 \\ 6\,\overline{)\,7^{1}3\,2} \end{array}$$




$$\begin{array}{r} 1\,2\,2 \\ 6\,\overline{)\,7^{1}3^{1}2} \end{array}$$

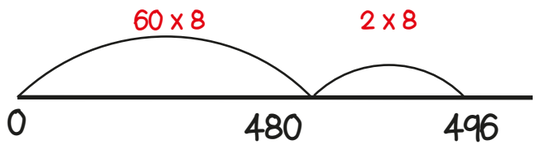
## 516 ÷ 12
Using factors

516 ÷ 3 ÷ 4

| 516 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 172 | | | | 172 | | | | 172 | | | |
| 43 | 43 | 43 | 43 | | | | | | | | |

## 496 ÷ 8
Partition and recombine

496 ÷ 8
480 16
÷ 8 ÷ 8
60 + 2 = 62

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# How shall I add?

## 0.8 + 0.7, 45 + 45
Number facts
Single digit decimals
Doubles
Bonds of 1 and 100

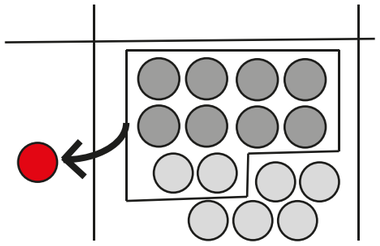
I just knew it!

Rapid fluency of 2 digit add 2 digit numbers

## 7 + 8
Use known facts

If I know 7 + 8 = 15 then I know 0.7 + 0.8 = 1.5

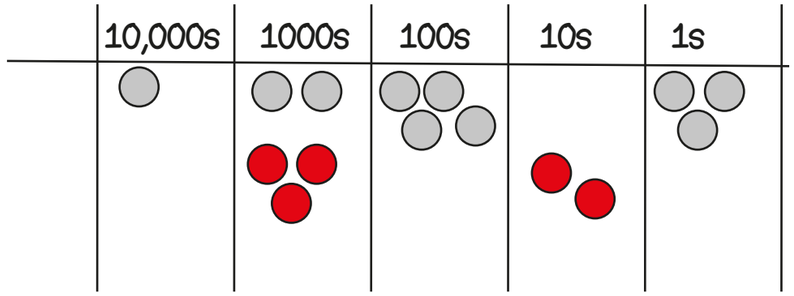
7,000 + 8,000 = 15,000
70,000 + 80,000 = 150,000
700,000 + 800,000 = 1,500,000



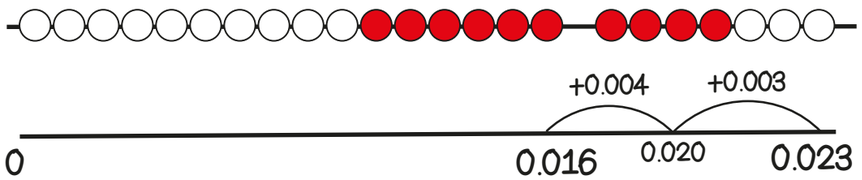
## 12,403 + 3,020
Use place value to add

If I know 2 + 3 = 5 then I know 2000 + 3000 = 5 000

I have noticed, one number has no hundreds or ones, the other has no tens.




## 0.016 + 0.007
Bridge through boundaries
by counting in efficient steps




## 25,748 + 46,374
Formal written method

Exchange ten of these for one of those!

Regroup and rename

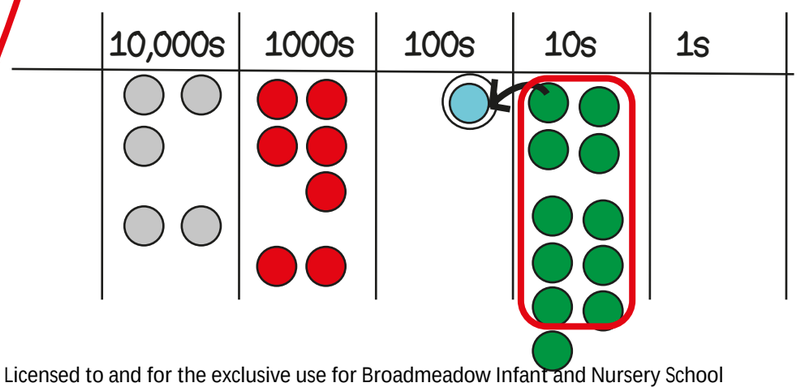
```
  25,748
+ 46,374
  72,122
  1 1 1 1
```

| | 10,000s | 1000s | 100s | 10s | 1s |
|---|---|---|---|---|---|
| | | | | | |

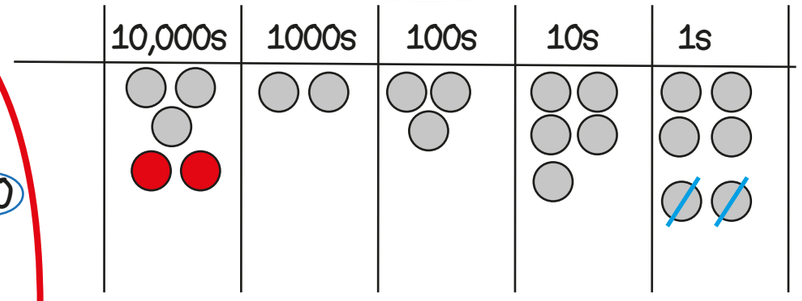
## 35,040 + 22,070
Partition and recombine

30,000 + 5,000 + 40 + 20,000 + 2,000 + 70

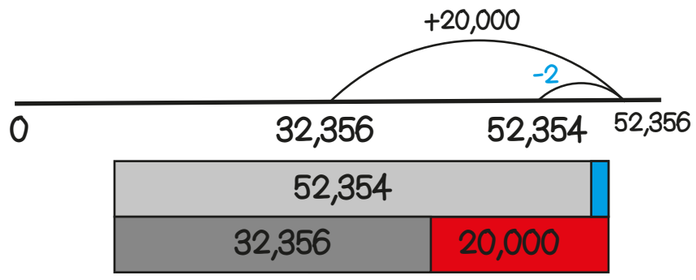
50,000 + 7,000 + 110 = 57,110




## 32,356 + 19,998
Round then adjust




Add 20,000 then subtract 2

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# How shall I subtract?

## 9 - 4, 13 - 5, 18 - 9
Number facts
Single digit decimals
Halves
Subtract from 1 and 100

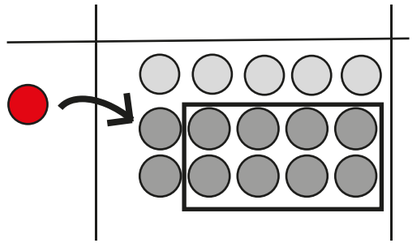
I just knew it!

Rapid fluency of 2 digit subtract 2 digit numbers

## 15 - 8 = 7
Use known facts

If I know 15 - 8 = 7 then I know 1.5 - 0.8 = 0.7

15,000 - 8,000 = 7,000
150,000 - 80,000 = 70,000
1,500,000 - 800,000 = 700,000



## 40,012 - 3,005
Use place value to subtract

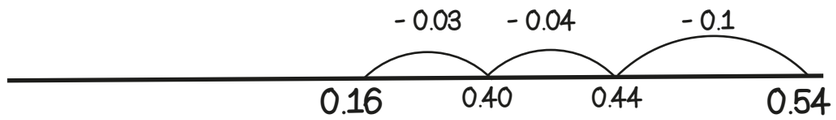
5 less than 12 is 7
Now it is easy to take away 3000

If I know 40 - 3 = 37 then I know that 40 thousand take away 3 thousand is 37 thousand

40,000 = 4 tens of thousands or 40 thousands
12 = 1 ten and 2 ones or 12 ones

40,012 = 40 thousands and 12 ones
take away 3 thousands and 5 ones
equals 37 thousands and 7 ones.

## 0.54 - 0.17
Bridge through boundaries
by counting in efficient steps




## 45,748 - 26,374
Formal written method

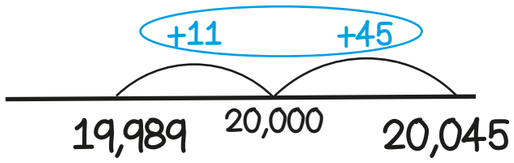
Exchange ten of these for one of those!

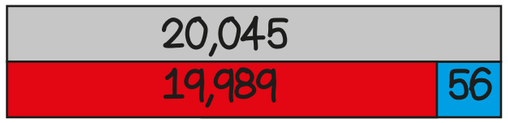
Regroup and rename

3 1 6 1
~~4~~5,~~7~~48
- 26,374
19,374

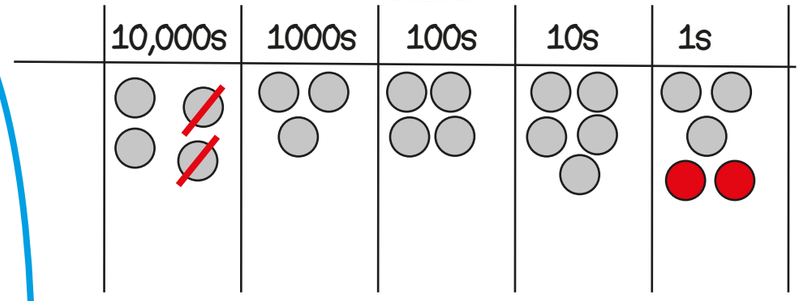
| | 10,000s | 1000s | 100s | 10s | 1s |
|---|---|---|---|---|---|
| | | | | | |

## 20,045 - 19,989
Find the difference between two numbers

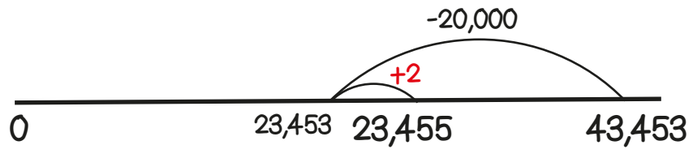



## 43,453 - 19,998
Round then adjust




Take away 20,000 then add 2

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# How shall I multiply?

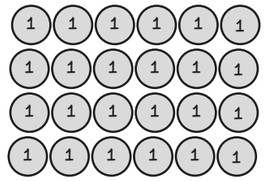
## Known facts:
Rapid recall of all multiplication tables up to 12 x 12

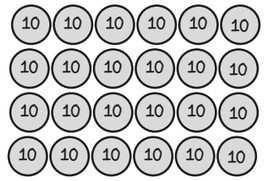
## 6 x 4
Use known facts and place value

40 is ten times greater than 4

6 x 4 = 24
60 x 4 = 240
60 x 40 = 2400

6 x 10 x 4 x 10
= 24 x 100

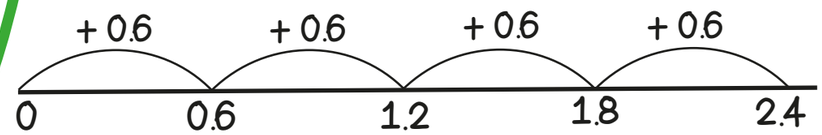




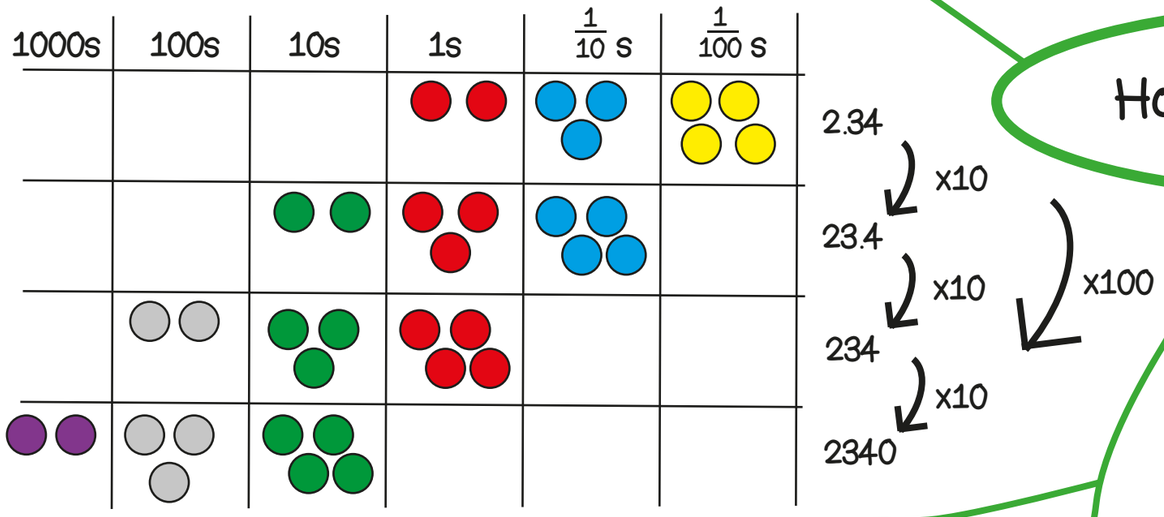
## 6 x 4
Use known facts and place value

0.6 is ten times smaller than 6

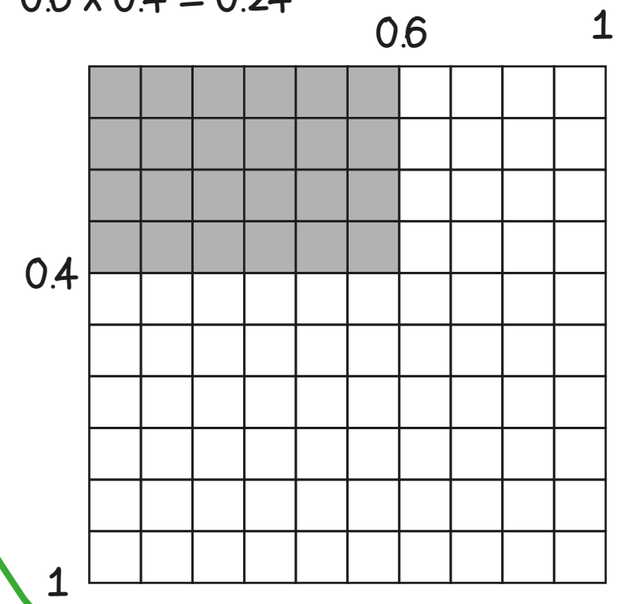
0.6 x 4 = 2.4
4 jumps of 0.6




## 2.34 x 1000
Multiply by 10, 100, 1000

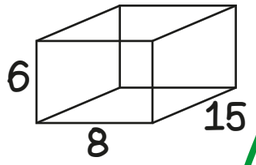



## 0.6 x 0.4
0.6 x 0.4 = 24 hundredths
0.6 x 0.4 = 0.24

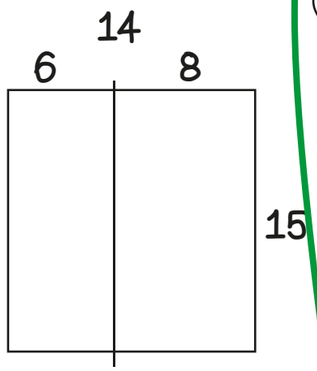



## 15 x 42
Using factors and distributive law

15 x 48
Factor pair
= 15 x 6 x 8
= 90 x 8
= 720




15 x 14
= 15 x 6 + 15 x 8
= 90 + 120
= 210




## 423 x 4
Partition and recombine

423 x 4

| 400 | 20 | 3 |
|---|---|---|
| x4 | x4 | x4 |

1600 + 80 + 12 = 1692

## 427 x 38
Formal written method

| | 400 | 20 | 7 |
|---|---|---|---|
| 30 | 12,000 | 600 | 210 |
| 8 | 3,200 | 160 | 56 |

427
x 38
3416
12810
16226

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# How shall I divide?

Known facts:
Use recall of all multiplication tables up to 12 x 12 to derive division facts

Include calcuations where remainders occur

## 24 ÷ 4
## Use known facts and place value

24,000 is a thousand times greater than 24

$24 \div 4 = 6$
$240 \div 40 = 6$
$2400 \div 400 = 6$
$24{,}000 \div 4000 = 6$

24 biscuits shared between 4 people means they will get 6 biscuits each.
If there are 1000 times as many people and 1000 times as many biscuits, how many biscuits each now?

$$24{,}000 \div 400 = \frac{24 \times 1000}{4 \times 100}$$

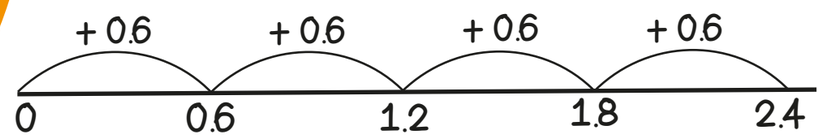
$$\frac{240}{4} = 60$$

## 2.4 ÷ 0.6
## Use known facts and place value

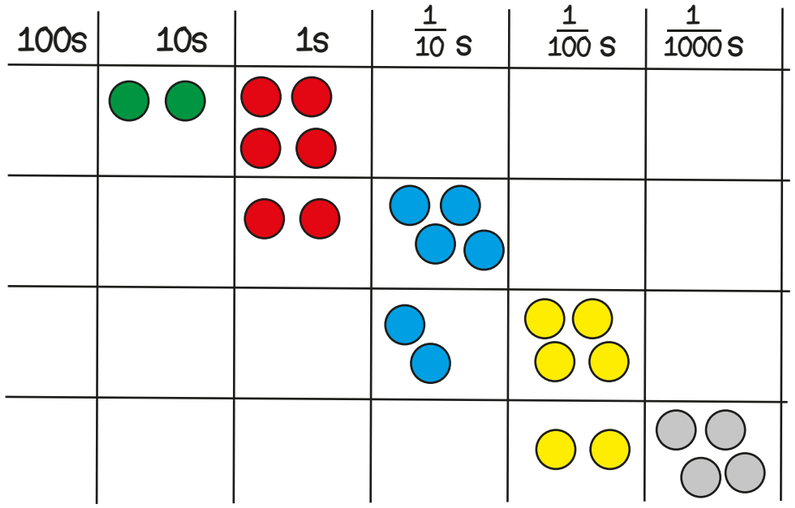
0.6 is ten times smaller than 6

$2.4 \div 0.6 = 4$

How many steps of 0.6 make 2.4?

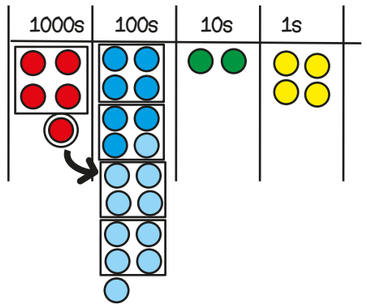



## 24 ÷ 1000
## Divide by 10, 100, 1000

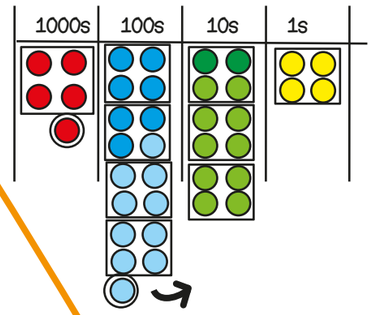



24
÷10
2.4
÷10
0.24
÷10
0.024
÷1000

## 5724 ÷ 4
## Formal written method




$$\begin{array}{r} 1\,4 \\ 4\,\overline{)\,5^{1}7\,2\,4} \end{array}$$




$$\begin{array}{r} 1\,4\,3\,1 \\ 4\,\overline{)\,5^{1}7^{1}2\,4} \end{array}$$

## 1512 ÷ 24
## Using factors

1512 ÷ 6 ÷ 4

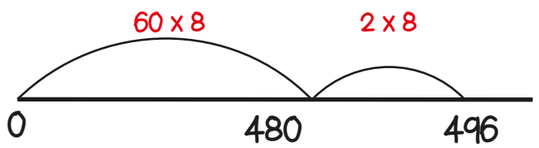
| 1512 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 252 | | | | 252 | | | | 252 | | | | 252 | | | | 252 | | | | 252 | | | |
| 63 | 63 | 63 | 63 | | | | | | | | | | | | | | | | | | | | |

## 496 ÷ 8
## Partition and recombine

496 ÷ 8

480 ÷ 8 = 60
16 ÷ 8 = 2

60 + 2 = 62

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# How shall I add?

## 44 + 56, 27 + 27
Number facts
Single digit decimals
Doubles
Bonds of 1 and 100

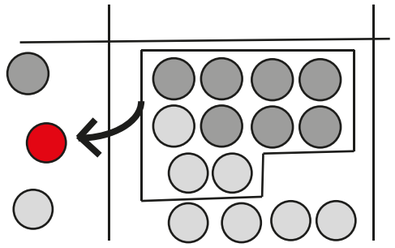
I just knew it!

Rapid fluency of 2 digit add 2 digit numbers

## 17 + 17
Use known facts

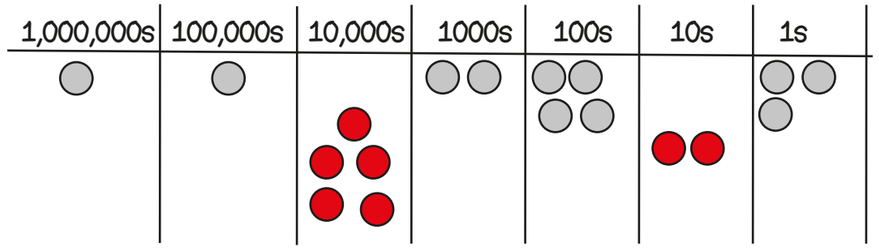
If I know 17 + 17 = 34 then I know 1.7 + 1.7 = 3.4

17,000 + 17,000 = 34,000
170,000 + 170,000 = 340,000
1,700,000 + 1,700,000 = 3,400,000

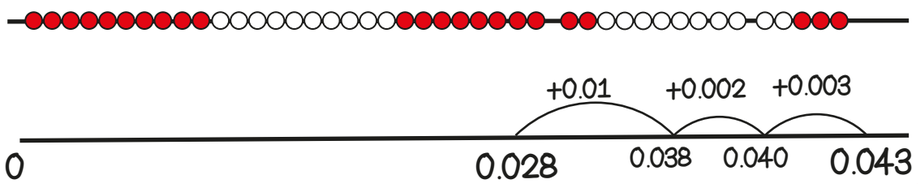


## 1,102,403 + 50,020
Use place value to add

I have noticed, one number has no hundreds or ones, the other has no tens.




## 0.028 + 0.015
Bridge through boundaries
by counting in efficient steps




## 325,748 + 246,374
Formal written method

Exchange ten of these for one of those!

Regroup and rename

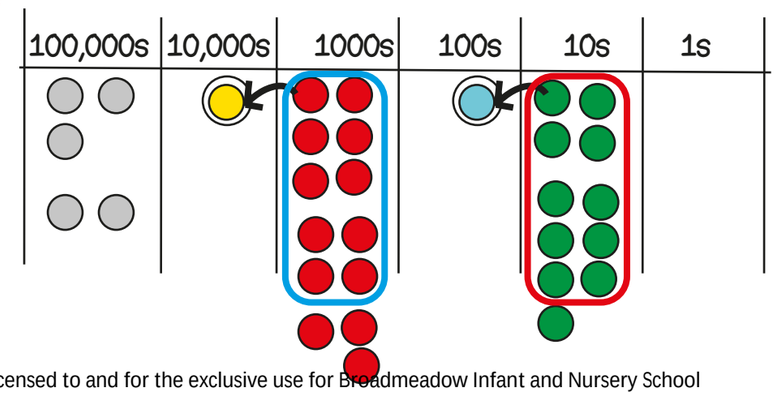
```
  325,748
+ 246,374
  572,122
  1 1 1 1
```

| 100,000s | 10,000s | 1000s | 100s | 10s | 1s |
|---|---|---|---|---|---|
| | | | | | |

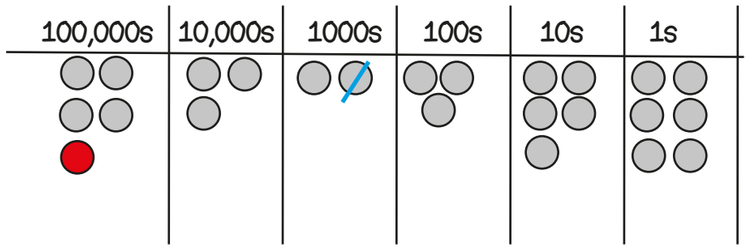
## 307,040 + 206,070
Partition and recombine

300,000 + 7,000 + 40 + 200,000 + 6,000 + 70

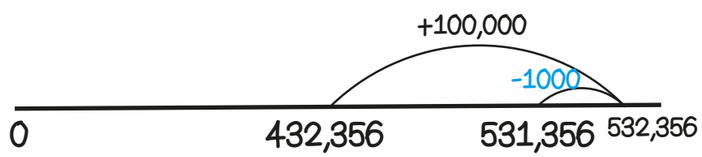
500,000 + 13,000 + 110 = 513,110

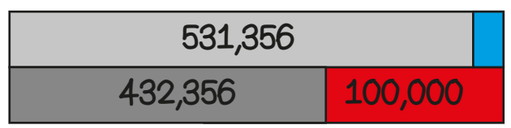



## 432,356 + 99,000
Round then adjust




Add 100,000 then take away 1,000

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# How shall I subtract?

## 0.9 - 0.4, 100 - 65
Number facts
Single digit decimals
Halves
Bonds of 1 and 100

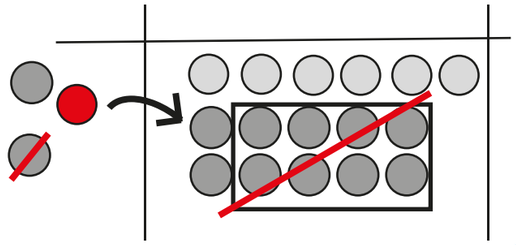
I just knew it!

Rapid fluency of 2 digit subtract 2 digit numbers

## 36 - 18 = 18
Use known facts

If I know 36 - 18 = 18 then I know 3.6 - 1.8 = 1.8

36,000 - 18,000 = 18,000
360,000 - 180,000 = 180,000
3,600,000 - 1,800,000 = 1,800,000



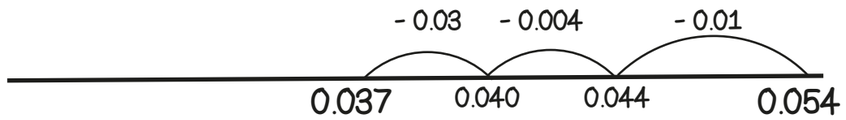
## 400,032 - 30,005
Use place value to subtract

5 less than 32 is 27

400,000 = 4 hundreds of thousands
or 400 thousands
400 - 30 = 370 so 400,000 - 3,000 = 370,000

400,032 = 400 thousands and 32 ones
take away 30 thousands and 5 ones
= 370,027

## 0.054 - 0.017
Bridge through boundaries
by counting in efficient steps




## 445,748 - 126,374
Formal written method

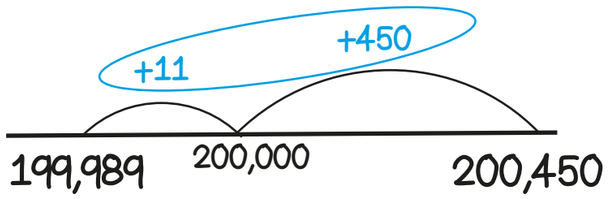
Exchange ten of these for one of those!

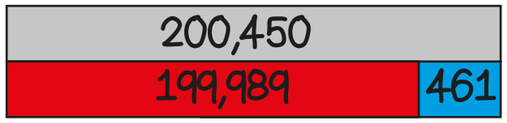
Regroup and rename

```
  3 1 6 1
  4~~4~~,7~~4~~8
+ 1 2 6 , 3 7 4
  3 1 9 , 3 7 4
```

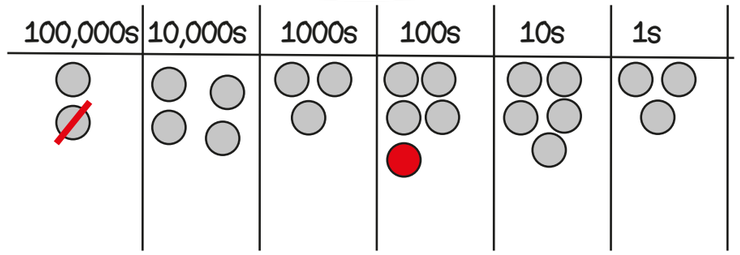
| 100,000s | 10,000s | 1000s | 100s | 10s | 1s |
|---|---|---|---|---|---|
| | | | | | |

## 200,450 - 199,989
Find the difference between two numbers

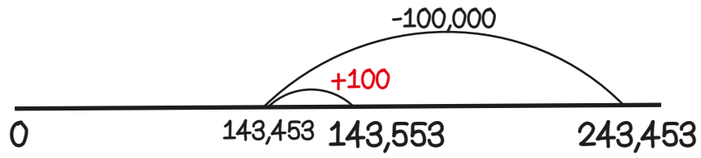



## 243,453 - 99,900
Round then adjust




Take away 100,000 then add 100

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# How shall I multiply?

## Known facts:
Rapid recall of all multiplication tables up to 12 x 12

## 6 x 4
Use known facts and place value

40 is ten times greater than 4

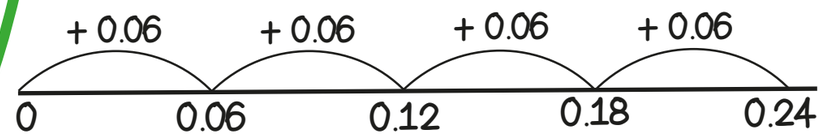
60 x 40 = 2400
600 x 400 = 240,000
6000 x 4000 = 24,000,000

6 x 10 x 4 x 10
= 24 x 100

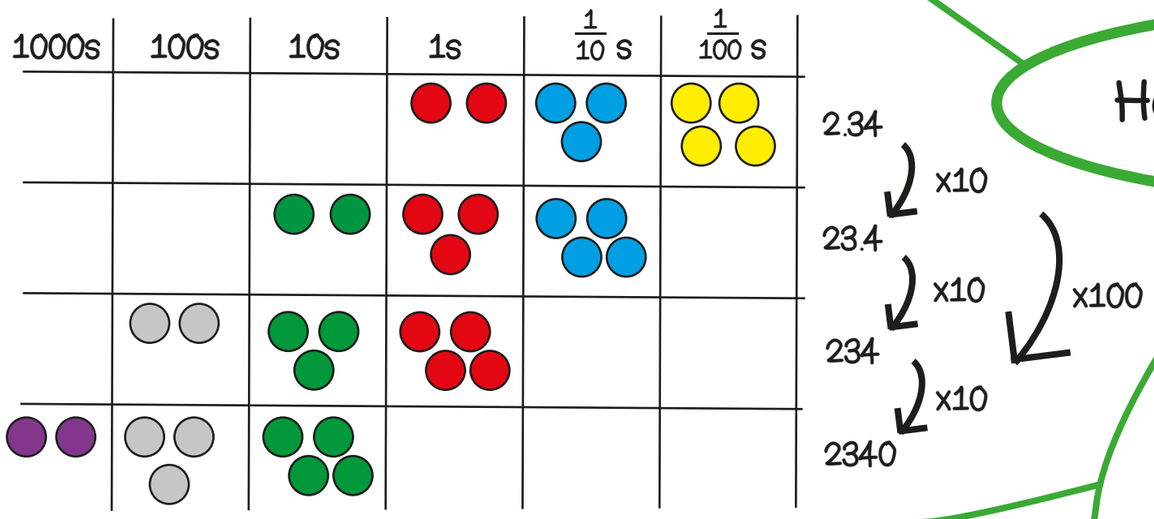
## 6 x 4
Use known facts and place value

0.6 is ten times smaller than 6

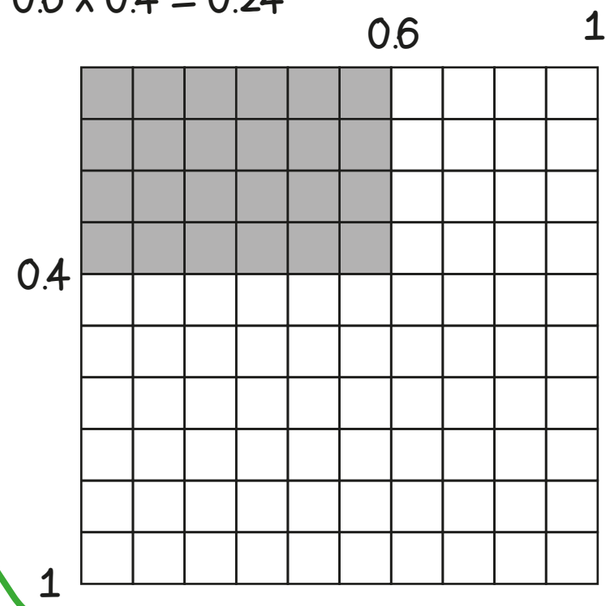
0.06 x 4 = 0.24
4 jumps of 0.06




## 2.34 x 1000
Multiply by 10, 100, 1000

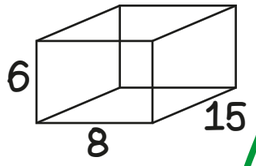



## 0.6 x 0.4 = 24 hundredths
0.6 x 0.4 = 0.24

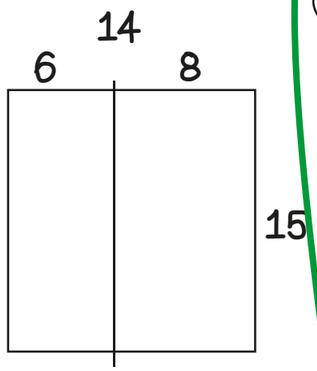



## 15 x 42
Using factors and distributive law

15 x 48
Factor pair
= 15 x 6 x 8
= 90 x 8
= 720




15 x 14
= 15 x 6 + 15 x 8
= 90 + 120
= 210




## 4203 x 4
Partition and recombine

4203 x 4

| 4 0 0 0 | 2 0 0 | 3 |
|---|---|---|
| x4 | x4 | x4 |

16,000 + 800 + 12 = 16,812

## 2427 x 38
Formal written method

```
 2427
 x  38
 19416
 72810
 92226
```

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# How shall I divide?

Known facts:
Use recall of all multiplication tables up to 12 x 12 to derive division facts

Include calcuations where remainders occur

## 24 ÷ 4
Use known facts and place value

240 is ten times greater than 24

240 ÷ 40 = 6
2400 ÷ 400 = 6
24,000 ÷ 4000 = 6
240,000 ÷ 40,000 = 6
2,400,000 ÷ 400,000 = 6

24 biscuits shared between 4 people means they will get 6 biscuits each.
If there are 10 times as many people and 10 times as many biscuits, how many biscuits each now?

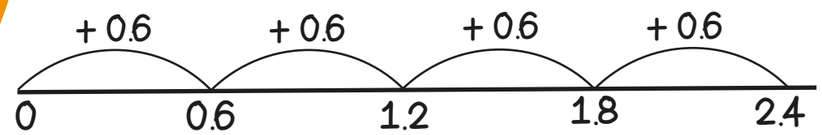
$$240{,}000 \div 400 = \frac{24 \times 10{,}000}{4 \times 100}$$

$$\frac{2400}{4} = 600$$

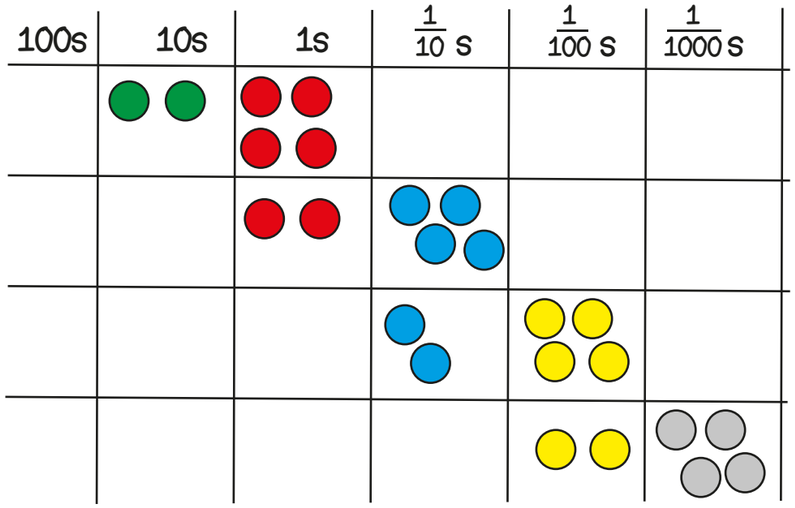
## 2.4 ÷ 0.6
Use known facts and place value

0.6 is ten times smaller than 6

2.4 ÷ 0.6 = 4
How many steps of 0.6 make 2.4?

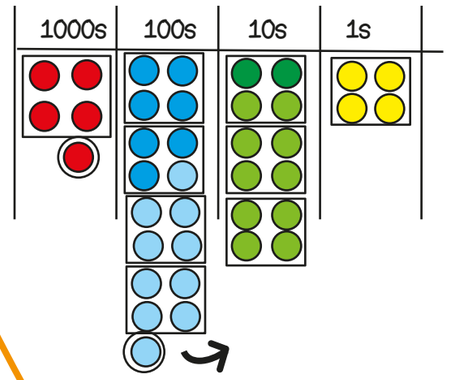



## 24 ÷ 1000
Divide by 10, 100, 1000




24
÷10
2.4
÷10
0.24
÷10
0.024
÷1000

## 7182 ÷ 21
Formal written method




```
     1 4 3 1
4 | 5¹7¹2 4
```

```
      3 4 2
21 | 7 1 8 2
     6 3
       8 8
       8 4
         4 2
         4 2
           0
```

## 1512 ÷ 24
Using factors

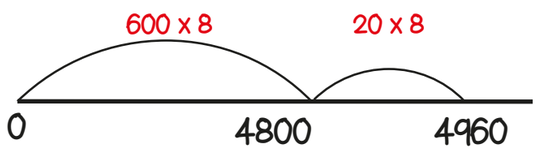
1512 ÷ 6 ÷ 4

| 1512 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 252 | | | | 252 | | | | 252 | | | | 252 | | | | 252 | | | | 252 | | | | 252 | | | |
| 63 | 63 | 63 | 63 | | | | | | | | | | | | | | | | | | | | | | | | |

## 4960 ÷ 8
Partition and recombine

4960 ÷ 8

4800 ÷ 8 = 600
160 ÷ 8 = 20
600 + 20 = 620

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