# Summary of the week

1. Add numbers mentally using an efficient strategy
2. Add numbers mentally using an efficient strategy
3. Subtract two numbers mentally using an efficient strategy
4. Subtract two decimal numbers mentally using an efficient strategy
5. Solve addition and subtraction problems mentally

# Monday 11th January

## LO: Add numbers mentally using an efficient strategy

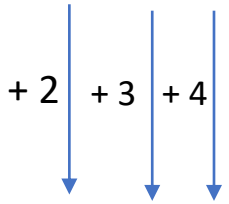
## What mental methods can you think of?

- Use your knowledge of place value + partitioning
- Using a number line
- Compensating and Adjusting

## Using your knowledge of place value

**Some numbers add together easily when we use our knowledge of place value – when there is no need to exchange or cross any boundaries.**

4563 + 234 = 4797




4797

## Using your knowledge of place value

**Some numbers add together easily when we use our knowledge of place value – when there is no need to exchange or cross any boundaries.**

4563 + 234 = 4797

3 + 4 = 7

60 + 30 = 90

500 + 200 = 700

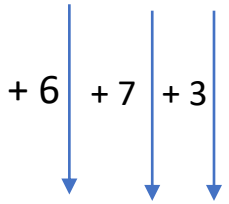
4000 + 0 = 4000

4000 + 700 + 90 + 7 = 4797

## Using your knowledge of place value

**Some numbers add together easily when we use our knowledge of place value – when there is no need to exchange or cross any boundaries.**

3214 + 673 = 3887




3887

## Using your knowledge of place value

**Some numbers add together easily when we use our knowledge of place value – when there is no need to exchange or cross any boundaries.**

3214 + 673 = 3887

4 + 3 = 7

10 + 70 = 80

200 + 600 = 800

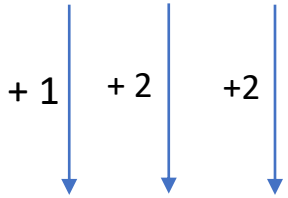
3000 + 0 = 3000

3000 + 800 + 80 + 7 = 3887

## Using your knowledge of place value

**Some numbers add together easily when we use our knowledge of place value – when there is no need to exchange or cross any boundaries.**

4.32 + 1.22 = 5.54




5. 5 4

## Using your knowledge of place value

**Some numbers add together easily when we use our knowledge of place value – when there is no need to exchange or cross any boundaries.**

$$4.32 + 1.22 = 5.54$$

$0.02 + 0.02 = 0.04$

$0.3 + 0.2 = 0.5$

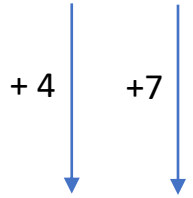
$4 + 1 = 5$

$5 + 0.5 + 0.04 = 5.54$

## Using your knowledge of place value

**Some numbers add together easily when we use our knowledge of place value – when there is no need to exchange or cross any boundaries.**

$$6.32 + 0.47 = 6.79$$




6. 7 9

## Using your knowledge of place value

**Some numbers add together easily when we use our knowledge of place value – when there is no need to exchange or cross any boundaries.**

$$6.32 + 0.47 = 6.79$$

$0.02 + 0.07 = 0.09$

$0.3 + 0.4 = 0.7$

$6 + 0 = 6$

$6 + 0.7 + 0.09 = 6.79$

# Try It

## Answer these questions using the method we just practised

**Year 5**

a) 4580 + 205 =

b) 8040 + 508 =

c) 42.4 + 4.3 =

d) 2.54 + 1.32 =

e) £1.25 + 34p =

**Year 6**

a) 14580 + 3215 =

b) 180,404 + 2392 =

c) 14.237 + 2.132 =

d) ? = 0.65 + 123.34

e) £17.25 + £1.64 =

# Try It ANSWERS

## Answer these questions using the method we just practised

**Year 5**

a) 4580 + 205 = 4785

b) 8040 + 508 =8548

c) 42.4 + 4.3 = 46.7

d) 2.54 + 1.32 = 3.86

e) £1.25 + 34p = £1.59

**Year 6**

a) 14580 + 3215 = 17,895

b) 180,404 + 2392 = 182,796

c) 14.237 + 2.132 = 16.369

d) 123.99 = 0.65 + 123.34

e) £17.25 + £1.64 = £18.89

Use It

# True or False?

These questions can all be answered using this method:

3764 + 235 =

14.572 + 12.21=

5673 + 3621 =

15.68 + 23.35 =

**Any that you think are false – can you explain why?**

Use It ANSWERS

True or False?

These questions can all be answered using this method:

3764 + 235 = T

14.572 + 12.21= T

5673 + 3621 = F – when you add the hundreds, you would need to exchange

15.68 + 23.35 = F – when you add the hundredths, you would need to exchange

**Any that you think are false – can you explain why?**

## Prove It

Write two questions that could be answered using this method and two that cannot.
Challenge yourself to include decimals, money or measures in your questions.

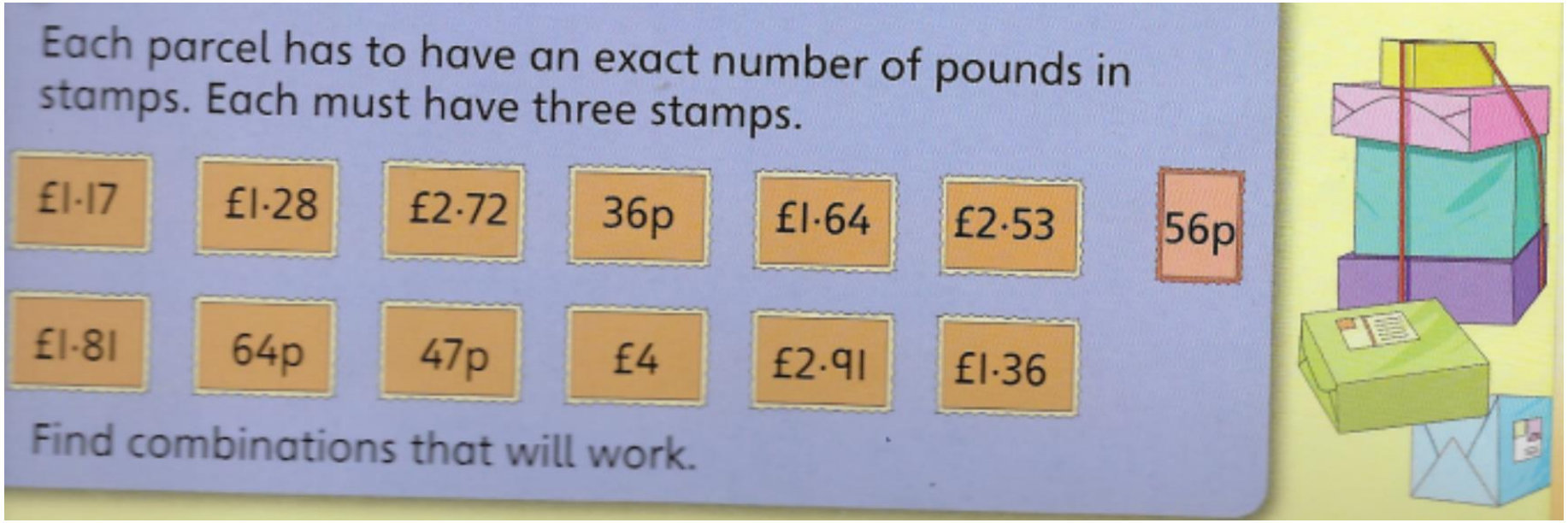
# Extra Challenge

Each parcel has to have an exact number of pounds in stamps. Each must have three stamps.

| | | | | | | |
|---|---|---|---|---|---|---|
| £1·17 | £1·28 | £2·72 | 36p | £1·64 | £2·53 | 56p |
| £1·81 | 64p | 47p | £4 | £2·91 | £1·36 | |

Find combinations that will work.

# Extra Challenge ANSWERS




There are lots of options. Did you get any of the ones below?

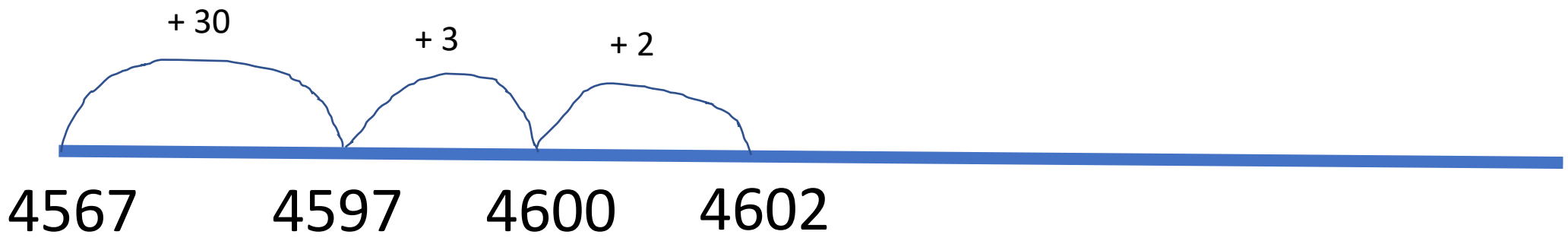
a) £1.64 + £4 + 36p = £6
b) £4 + 64p + 36p = £5
c) £4 + £1.36 + £1.64 = £7
d) £2.91 + £2.53 + 56p = £6
e) £4 + £1.28 + £2.72 = £8
f) £4 + £2.53 + 47p = £7

# Tuesday 12th January

LO: Add numbers mentally using a number line

# Using a number line

$$4567 + 35 = 4602$$



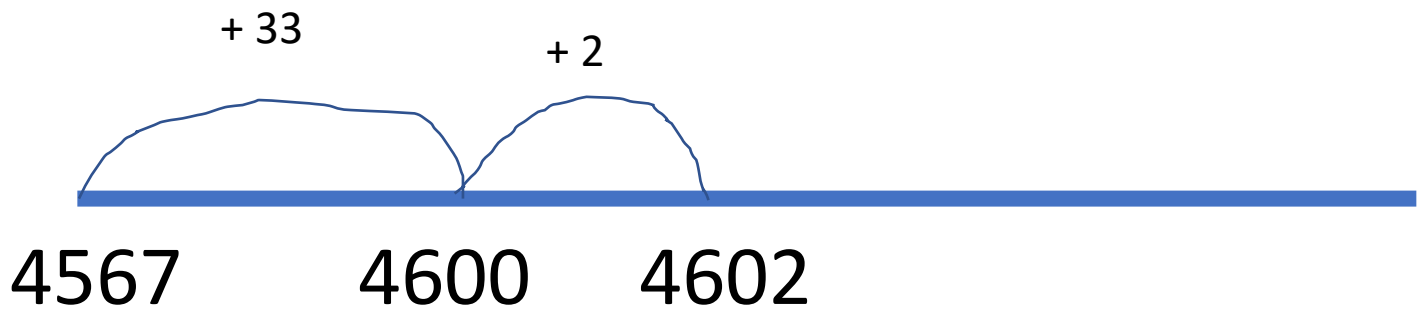

Plot the largest number at the start of the number line

Partition the smaller number into parts that are easier to add. There are many ways to do this. I have picked one way to demonstrate.

## Your task

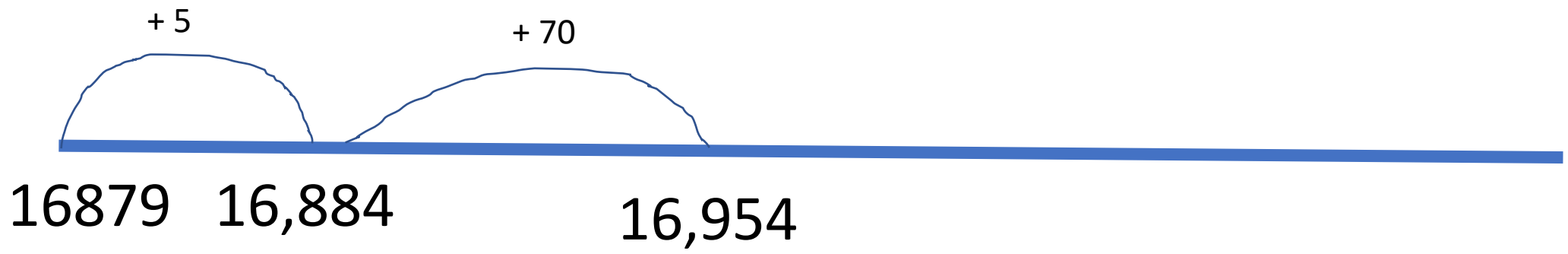
Show the same calculation on a number line in a different way. Split 35 into different parts

$$4567 + 35 = 4602$$



# Using a number line

16879 + 75 = 16,954

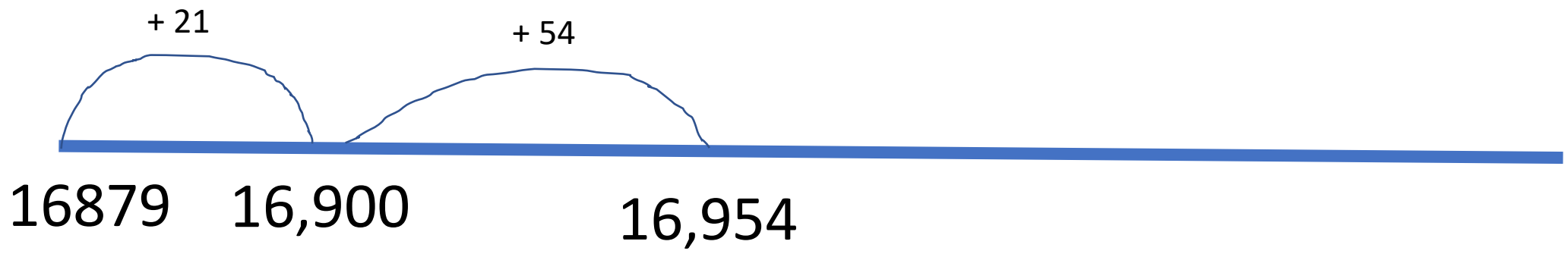



Plot the largest number at the start of the number line

Partition the smaller number into parts that are easier to add. There are many ways to do this. You can choose as many parts as you need to make the calculation easier.

# Using a number line

16879 + 75 = 16,954

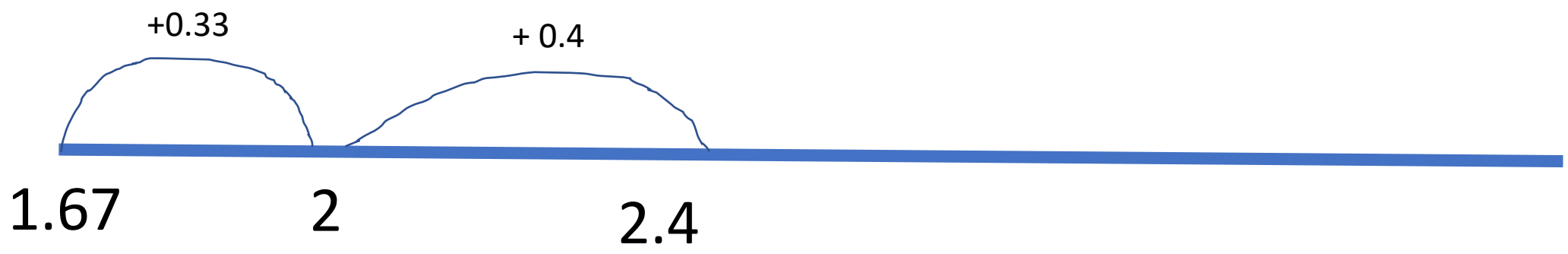



Plot the largest number at the start of the number line

Partition the smaller number into parts that are easier to add. There are many ways to do this. You can choose as many parts as you need to make the calculation easier.

# Using a number line

$$1.67 + 0.73 =$$

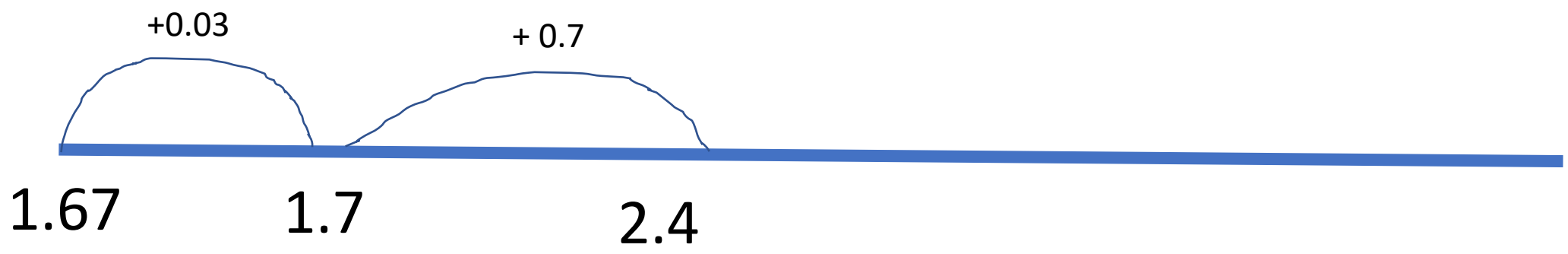



Plot the largest number at the start of the number line

Partition the smaller number into parts that are easier to add. There are many ways to do this. You can choose as many parts as you need to make the calculation easier.

# Using a number line

$$1.67 + 0.73 =$$

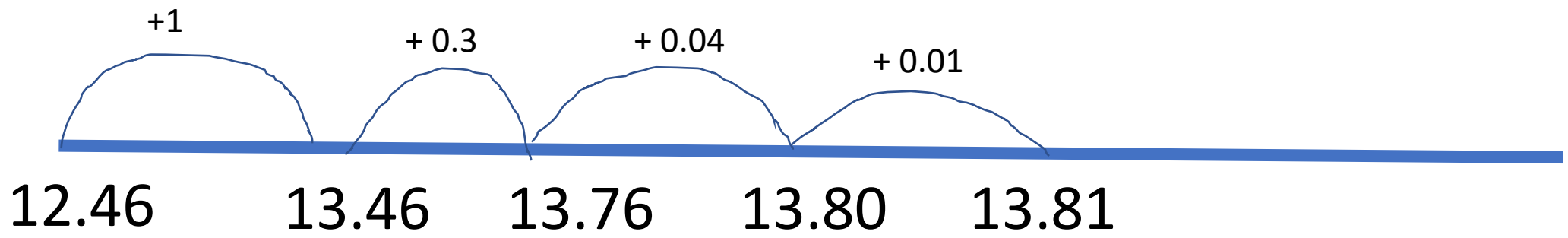



Plot the largest number at the start of the number line

Partition the smaller number into parts that are easier to add. There are many ways to do this. You can choose as many parts as you need to make the calculation easier.

# Using a number line

12.46 + 1.35= 13.81




Plot the largest number at the start of the number line

Partition the smaller number into parts that are easier to add. There are many ways to do this. You can choose as many parts as you need to make the calculation easier.

## Your Task

Answer these questions using a number line to show your mental calculation

Year 5

a) 4563 + 74 =

b) 6729 + 83 =

c) 6.4 + 7.8 =

d) 5.7 + 3.6 =

e) £1.45 + 39p=

Year 6

a) 14563 + 174 =

b) 60729 + 83 =

c) 17.64 + 0.53 =

d) £14.67 + £1.28=

e) £16.56 + £1.64 =

## Try It

Answer these questions using a number line to show your mental calculation

Year 5

a) 4563 + 74 = 4637

b) 6729 + 83 = 6812

c) 6.4 + 7.8 = 14.2

d) 5.7 + 3.6 = 9.3

e) £1.45 + 39p= £1.84

Year 6

a) 14563 + 174 = 14,737

b) 60729 + 83 = 60812

c) 17.64 + 0.53 = 18.17

d) £14.67 + £1.28= £15.95

e) £16.56 + £1.64 = £18.20

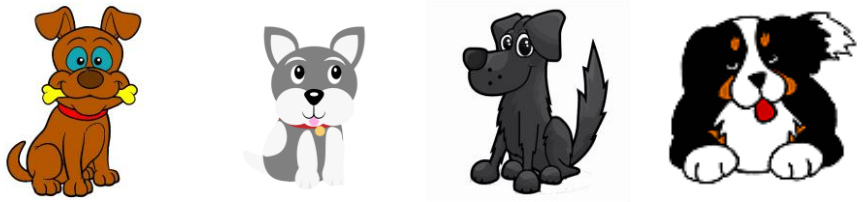
## Use It

## Year 5

1. Harvey has run 3.2km. He reaches his friends in another 4.9km.

2. Hayley cuts three pieces of rope: 1.2m, 2.4m and 1.8m. She ties them all together to make one long rope. How long is the rope?

3. Mrs Barker has four dogs. Their weights are shown in the picture:



7.2kg 7.8kg 8.1kg 8.6kg

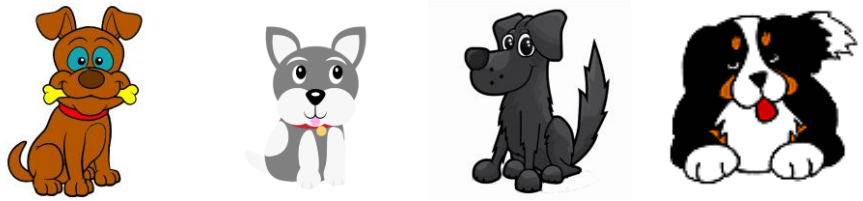
How much do the dogs weigh altogether?

## Year 6

1. Harvey has run 3.2km. He reaches his friends in another 4.9km. He then runs home. How far did he run altogether?

2. Hayley cuts four pieces of rope: 1.2m, 2.5m, 249cm and 180cm. She ties them all together to make one long rope. How long is the rope?

3. Mrs Barker has four dogs. Their weights are shown in the picture:



7.2kg 7100g 8.1kg 7600g

How much do the dogs weigh altogether?
Find the average weight of the dogs (Add them and divide by the number of dogs)

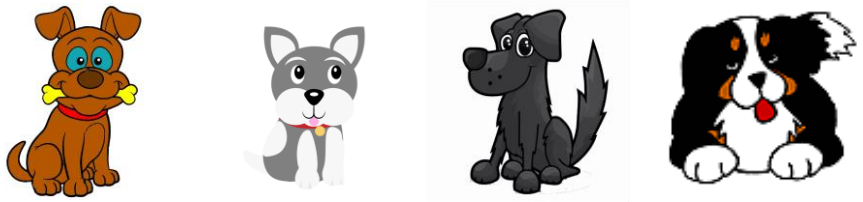
## Use It ANSWERS

### Year 5

1. Harvey has run 3.2km. He reaches his friends in another 4.9km. 8.1km

2. Hayley cuts three pieces of rope: 1.2m, 2.4m and 1.8m. She ties them all together to make one long rope. How long is the rope? 5.4m

3. Mrs Barker has four dogs. Their weights are shown in the picture:



7.2kg 7.8kg 8.1kg 8.6kg

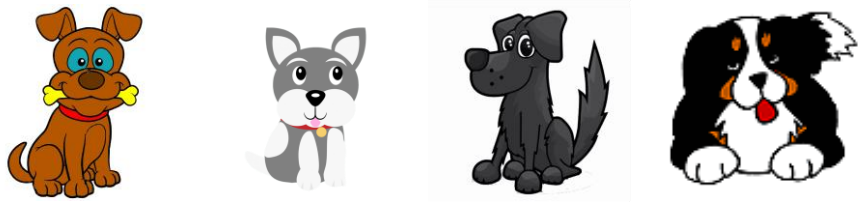
How much do the dogs weigh altogether?
31.7kg

### Year 6

1. Harvey has run 3.2km. He reaches his friends in another 4.9km. He then runs home. How far did he run altogether? 16.2km

2. Hayley cuts four pieces of rope: 1.2m, 2.5m, 249cm and 180cm. She ties them all together to make one long rope. How long is the rope? 7.99m

3. Mrs Barker has four dogs. Their weights are shown in the picture:



7.2kg 7100g 8.1kg 7600g

How much do the dogs weigh altogether? 30kg
Find the average weight of the dogs (Add them and divide by the number of dogs) 7.5kg

**Prove It**

If the answer is:

2.56

What could the question be if….

a) You can use your knowledge of place value to answer it?

b) You can use a number line to answer it?

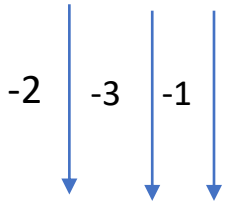
# Wednesday 13th January

LO: Subtract numbers mentally using our knowledge of place value and partitioning

## Using your knowledge of place value

**Some numbers can be taken away from others mentally by just using our knowledge of place value.**

4563 - 231 = 4332




4332

## Using your knowledge of place value

**Some numbers add together easily when we use our knowledge of place value – when there is no need to exchange or cross any boundaries.**

4563 - 231 = 4332

3 – 1 = 2

60 – 30 = 30

500 – 200 = 300

4000 – 0 = 4000

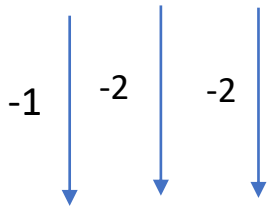
4000 + 300 + 30 + 2 = 4332

Check using the inverse -> 4332 + 231 = 4563

## Using your knowledge of place value

**Some numbers can be taken away from others mentally by just using our knowledge of place value.**

$$4.32 - 1.22 = 3.1$$




3. 1 0

## Using your knowledge of place value

$$4.32 - 1.22 = 3.1$$

$4 - 1 = 3$

$0.3 - 0.2 = 0.1$

$0.02 - 0.02 = 0$

$3 + 0.1 = 3.1$

Check using the inverse -> $3.1 + 1.22 = 4.32$

## Using your knowledge of place value

## Try this one yourself:

3645 - 313=

## Using your knowledge of place value

## Try this one yourself:

3645 - 313= 3332

5 – 3 = 2
40 – 10 = 30
600 – 300 = 300
3000 – 0 = 3000

3000 + 300 + 30 + 2 = 3332

Check using the inverse -> 3332 + 313 = 3645

## Using your knowledge of place value

## Try this one yourself:

$$45.63 - 2.42 =$$

## Using your knowledge of place value

## Try this one yourself:

45.63 – 2.42= 43.21

0.03 – 0.02 = 0.01
0.6 – 0.4 = 0.2
45 – 2 = 43

43 + 0.2 + 0.01 = 43.21

Check using the inverse -> 43.21 + 2.42 = 45.63

## Try It

Answer these questions using your knowledge of place value and partitioning

Year 5

a) 4563 - 51 =

b) 87643 – 3421 =

c) 1.34 – 0.12 =

d) 12.45 – 1.32 =

e) £15.67 – 52p =

Year 6

a) 145,672 – 13,351=

b) 6.54 – 3.21=

c) 17.64 - 0.53 =

d) £14.67 - £4.26=

e) £135.65 - £12.32 =

## Try It

Answer these questions using your knowledge of place value and partitioning

Year 5

a) 4563 - 51 =4512

b) 87643 – 3421 = 84222

c) 1.34 – 0.12 = 1.22

d) 12.45 – 1.32 = 11.13

e) £15.67 – 52p = £15.15

Year 6

a) 145,672 – 13,351= 132,321

b) 6.54 – 3.21= 3.33

c) 17.64 - 0.53 = 17.11

d) £14.67 - £4.26= £10.41

e) £135.65 - £12.32 = £113.33

## Use It

**Colin thinks that he can calculate the answer to this question without exchanging or crossing any place value boundaries. Do you agree? Explain your answer.**

# 14.63 – 3.72 =

## Use It ANSWER

**Colin thinks that he can calculate the answer to this question without exchanging or crossing any place value boundaries. Do you agree? Explain your answer.**

# 14.63 – 3.72 =

**Colin is incorrect as there are a greater number of tenths in 3.72 than there are in 14.63 therefore you would need to exchange.**

## Prove It

**Use digits 1-9.**

**Create a**  **=**

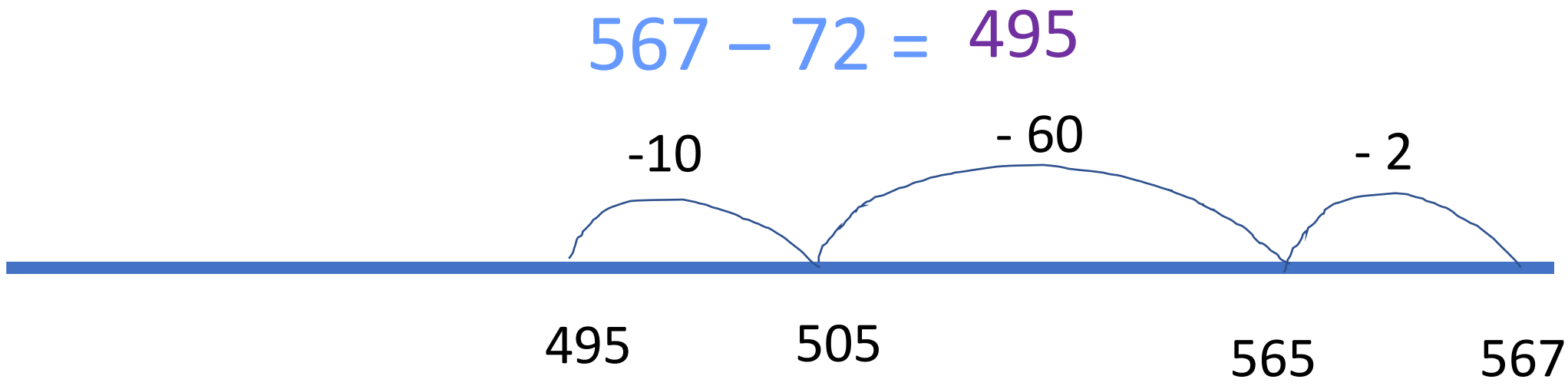
**Calculation with an answer as close as possible to 5.**

**What is the closest you can get?**

# Thursday 14th January

LO: Subtract numbers mentally using a number line

## Using a number line to support mental subtraction




If there is a large different between the two numbers, first plot the largest number at the end of the number line.

Next, choose what to partition the smaller number in to and take it away in chunks.

## Using a number line to support mental subtraction

$567 - 72 = 495$


There are many options so pick the chunks that you find easiest.

## Using a number line to support mental subtraction

## Try this one yourself:

$$854 - 63 =$$

## Using a number line to support mental subtraction

## Try this one yourself:

$$854 - 63 = 791$$


If there is a large different between the two numbers, first plot the largest number at the end of the number line.

Next, choose what to partition the smaller number in to and take it away in chunks.

## Using a number line to support mental subtraction

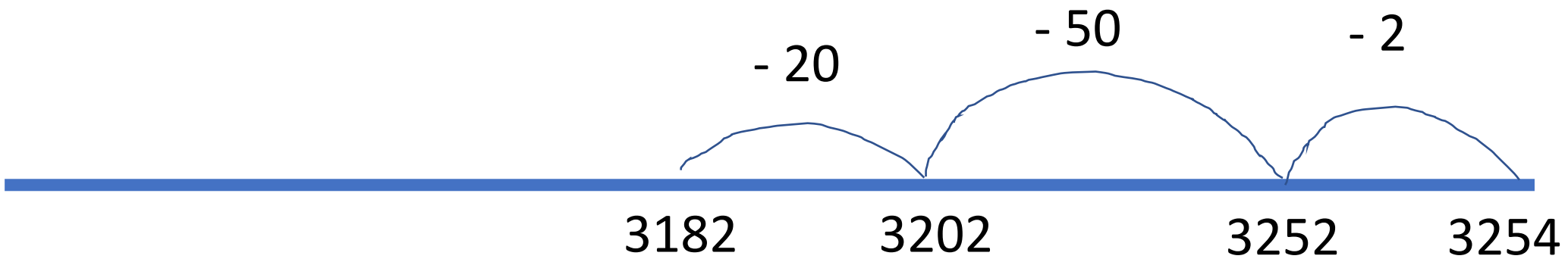
## Try this one yourself:

3254 - 72=

## Using a number line to support mental subtraction

## Try this one yourself:

3254 - 72= 3182

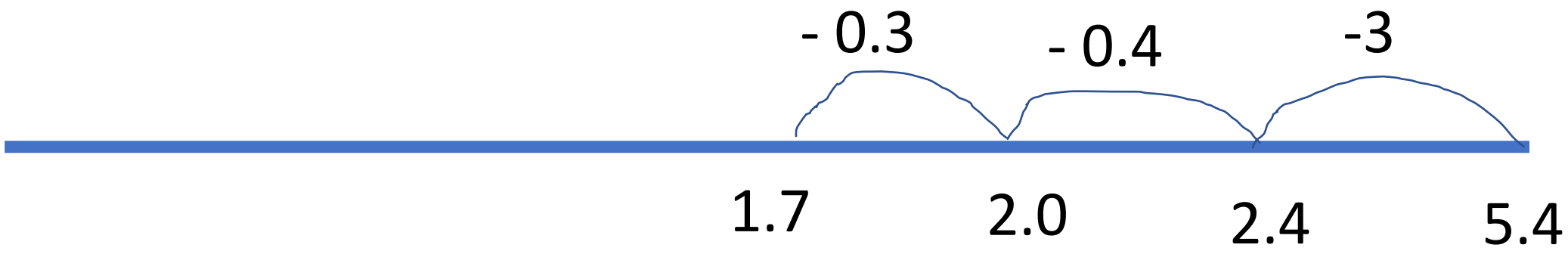



If there is a large different between the two numbers, first plot the largest number at the end of the number line.

Next, choose what to partition the smaller number in to and take it away in chunks.

## Using a number line to support mental subtraction

$5.4 - 3.7 = 1.7$




If there is a small difference between the numbers, you can choose whether to count on or back.

Counting back – place the larger number at the end of the number line

Count back in chunks of the smaller number

## Using a number line to support mental subtraction

$5.4 - 3.7 = 1.7$


If there is a small difference between the numbers, you can choose whether to count on or back.

Counting on – place the smaller number at the start of the number line
Count on in small chunks until you reach the larger number. Add together the chunks to give you the answer.

## Using a number line to support mental subtraction

## Try this one yourself:

$$6.3 - 4.8 =$$

## Using a number line to support mental subtraction

## Try this one yourself:

$$6.3 - 4.8 = 1.5$$


If there is a small difference between the numbers, you can choose whether to count on or back.

Counting on – place the smaller number at the start of the number line
Count on in small chunks until you reach the larger number. Add together the chunks to give you the answer.

## Using a number line to support mental subtraction

## Try this one yourself:

$$10.4 - 8.7 =$$

## Using a number line to support mental subtraction

## Try this one yourself:

$$10.4 - 8.7 = 1.7$$


If there is a small difference between the numbers, you can choose whether to count on or back.

Counting on – place the smaller number at the start of the number line
Count on in small chunks until you reach the larger number. Add together the chunks to give you the answer.

## Using a number line to support mental subtraction

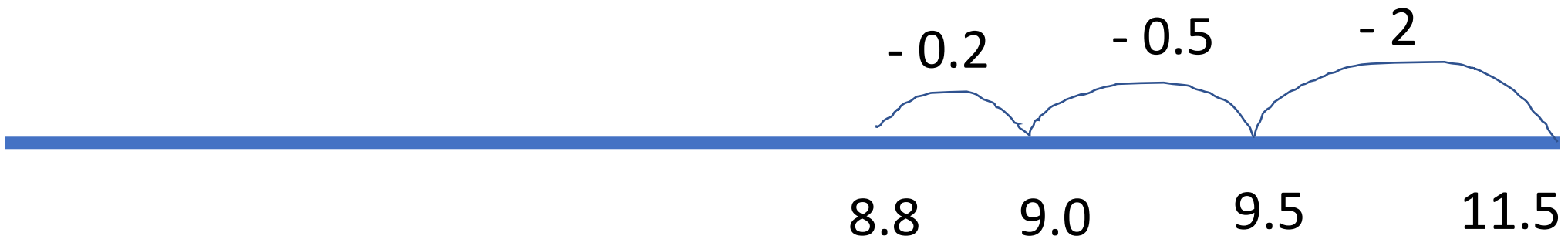
## Try this one yourself:

$$11.5 - 2.7 =$$

## Using a number line to support mental subtraction

## Try this one yourself:

$$11.5 - 2.7 = 8.8$$




Would you choose to count on or back?

I would count back as there is a large difference between the two numbers.

## Try It

Answer these questions using a number line

Year 5

a) 5674 – 87 =

b) 6431 – 56 =

c) 4.3 – 2.7 =

d) 5.2 – 4.6 =

e) 13.4 – 8.9 =

Year 6

a) 13,564 – 78 =

b) 133, 521 – 45 =

c) 10.3 – 7.8 =

d) £1.56 – 67p =

e) 6.57cm – 0.79cm =

## Try It

Answer these questions using a number line

Year 5

a) 5674 – 87 = 5587

b) 6431 – 56 = 6375

c) 4.3 – 2.7 = 1.6

d) 5.2 – 4.6 = 0.6

e) 13.4 – 8.9 = 4.5

Year 6

a) 13,564 – 78 = 13486

b) 133, 521 – 45 = 133476

c) 10.3 – 7.8 = 2.5

d) £1.56 – 67p = 89p

e) 6.57cm – 0.79cm = 5.78cm

## Use It

**Colin has calculated the answer to this subtraction mentally. Can you spot Colin's mistake?**

$$3.65 - 2.73 = 1.12$$

**Show Colin how he should have calculated the answer using a number line to demonstrate.**

## Use It ANSWER

**Colin has calculated the answer to this subtraction mentally. Can you spot Colin's mistake?**

$$3.65 - 2.73 = 1.12$$

**Show Colin how he should have calculated the answer using a number line to demonstrate.**

**Colin has taken the tenths from the larger number away from the tenths in the smaller number instead of the other way around. He should have use a number line to count on: 0.65 + 0.27 = 0.92**

## Prove It

### Year 5

Rachel has £10.
She spends £6.49 at the shop.

Rachel uses a column method to calculate her change.

Was this the most efficient method?

What method would you recommend?

## Year 6

2,000 – 1,287

Here are three different strategies for this subtraction calculation:

I used the column method.

Dora

I used my number bonds from 87 to 100 then from 1,300 to 2,000

Tommy

I subtracted one from each number and then used the column method.

Jack

Whose method is most efficient?

# Prove It ANSWERS

## Year 5

Rachel has £10.
She spends £6.49 at the shop.

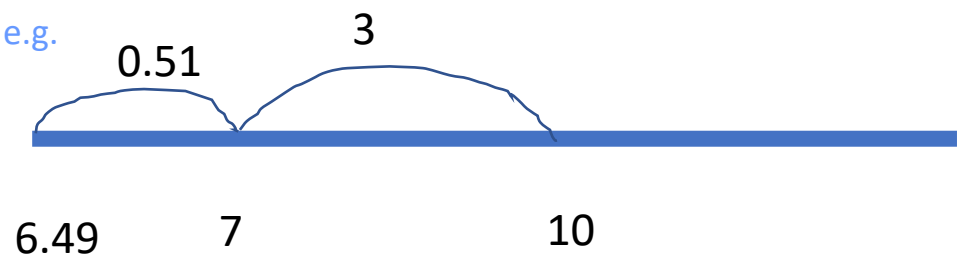
Rachel uses a column method to calculate her change.

Was this the most efficient method?

What method would you recommend?

A column method is not the most efficient as she could have used a number line method using her bonds to help her.
£3.51

e.g.




## Year 6

2,000 – 1,287

Here are three different strategies for this subtraction calculation:

I used the column method.

Dora

I used my number bonds from 87 to 100 then from 1,300 to 2,000

Tommy

Tommy is most efficient as the number we are subtracting from is a multiple of 1000 so using our number bonds to count up should be speedy.

I subtracted one from each number and then used the column method.

Jack

If your number bonds are not very secure, this would be the next most efficient method.

Whose method is most efficient?

Friday 15th January

LO: Solve problems involving mental addition and subtraction

Today's lesson is a range of problems that you need to solve using everything that we have practised this week – MENTALLY using jottings.

Year 5 – Problems 1-6
Year 6 – Problems 7 - 12

At the end, there is a challenge problem for everyone to have a go at if you would like to.

In the library, there are 36054 science books on the top shelf and 2425 science books on the bottom shelf. How many science books are there altogether?

In the library, there are 36054 science books on the top shelf and 2425 science books on the bottom shelf. How many science books are there altogether?

# 36054 + 2425 =

4 + 5 = 9

50 + 20 = 70

0 + 400 = 400

6000 + 2000 = 8000

30000 + 0 = 30000

30000 + 8000 + 400 + 70 + 9 = <u>38479</u>

Dorothy is saving her money for a new bike costing £286. If she has already saved £39 and is then given £59 for her birthday, how much more does she need to save?

Dorothy is saving her money for a new bike costing £286. If she has already saved £39 and is then given £59 for her birthday, how much more does she need to save?

First find how much she saved:

59 + 39 = 60 + 40 = 100 then subtract 2 as you added too many

100 – 2 = £98

Then subtract this from the cost of the bike:

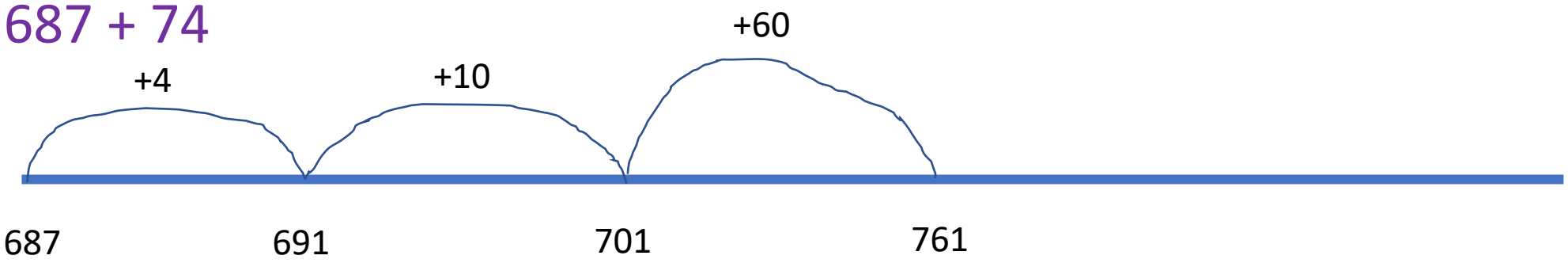
Round £98 up to £100
£286 - £100 = £186
Add the £2 back on - £188

A study of 900 people found that 687 were right handed and 74 were left handed. The remainder were ambidextrous (could use either hand). How many people were ambidextrous?

A study of 900 people found that 687 were right handed and 74 were left handed. The remainder were ambidextrous (could use either hand). How many people were ambidextrous?

First add up the number of right handed and left handed people

687 + 74




Then subtract that from 900

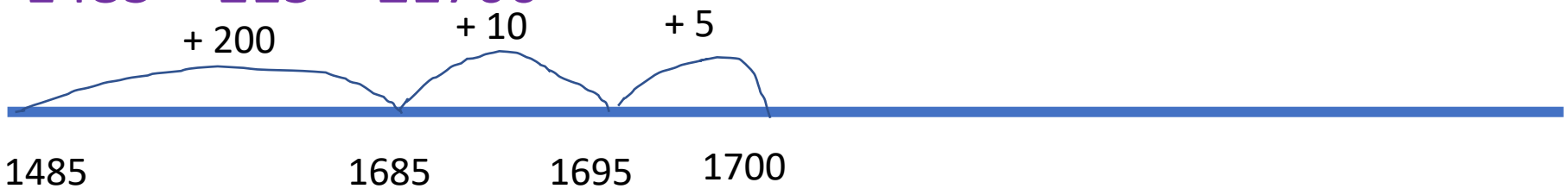
900 – 761 = 139

Dave earns £1485 as a bus driver and his wife earns £1760 as a nurse. If Dave gets a pay rise of £215 a month, how much less than his wife does he earn?

# Dave earns £1485 as a bus driver and his wife earns £1760 as a nurse. If Dave gets a pay rise of £215 a month, how much less than his wife does he earn?

First add Dave's pay rise to his original pay

1485 + 215 = £1700



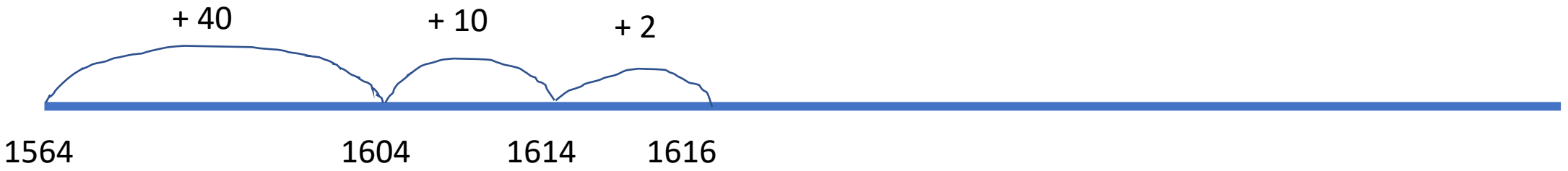

Then subtract this from his wife's pay.

£1760 - £1700 = £60

If William Shakespeare was born in 1564 and lived to be 52 years old, how many years ago did he die?

# If William Shakespeare was born in 1564 and lived to be 52 years old, when did he die?

## Add 1564 + 52



The cinema has 700 seats. 113 adults and 276 children come to see the film. How many empty seats were there?

The cinema has 700 seats. 113 adults and 276 children come to see the film. How many empty seats were there?

First add the number of seats that are full

113 + 276 =

6 + 3 = 9

10 + 70 = 80

100 + 200 = 300

300 + 80 + 9 = 389

Then subtract this from 700 700 – 389 = 311

Year 6

In January, there were 34,371 dragons. In February, another 61428 dragons were born. How many more dragons need to be born for there to be 100, 000 altogether?

# Year 6

## In January, there were 34,371 dragons. In February, another 61428 dragons were born. How many more dragons need to be born for there to be 100, 000 altogether?

First

34371 + 61428  can be added without crossing boundaries.

8 + 1 = 9
70 + 20 = 90
300 + 400 = 700
4000 + 1000 = 5000
30000+60000 = 90000
90000 + 5000 + 700 + 90 + 9 = 95799

Then  100000 – 95799 = 4201

Three cakes weigh 3.75kg, 2.13kg and 1.9kg. Find their total weight on the cake stall.

# Three cakes weigh 3.75kg, 2.13kg and 1.9kg. Find their total weight on the cake stall.

First I added

3.75 + 2.13 using my knowledge of place value

0.05 + 0.03 = 0.08
0.7 + 0.1 = 0.8
3 + 2 = 5
5 + 0.8 + 0.08 = 5.88

Then I rounded 1.9kg up to 2kg and added that on

5.88 + 2 = 7.88kg

Then I subtracted the 0.1kg extra that I added
7.88 – 0.1 = <u>7.78kg</u>

Jim spends £2.87 on the Tombola, £1.12 on the Hoop-lah and 76p on the Coconut shy. How much does he spend in total?

How much change would he get from £5?

Jim spends £2.87 on the Tombola, £1.12 on the Hoop-lah and 76p on the Coconut shy. How much does he spend in total?

How much change would he get from £5?

First I added

2.87 + 1.12
0.07 + 0.02 = 0.09
0.8 + 0.1 = 0.9
2 + 1 = 3
3 + 0.9 + 0.09 = £3.99

Then I added 76p by adding 1p then adding 75p. £4 + 75p = £4.75

Rover’s owner buys a 6.8kg bag of dog food. In the first week, he eats 1.2kg of food and the week after he eats 1.68kg. How much is left in the bag?

# Rover's owner buys a 6.8kg bag of dog food. In the first week, he eats 1.2kg of food and the week after he eats 1.68kg. How much is left in the bag?

First I added the amount he ate ->

1.2 + 1.68 = 2.88 (using place value knowledge)

Then I subtracted this from 6.8 = <u>3.92kg</u>

Sunil had saved £85.50. He spent £9.32 on a meal and £4.16 on a cinema ticket. How much money did he have left?

# Sunil had saved £85.50. He spent £9.32 on a meal and £4.16 on a cinema ticket. How much money did he have left?

First I added how much he spent

£9.32 + £4.16

0.02 + 0.06 = 0.08
0.3 + 0.1 = 0.4
9 + 4 = 13
13 + 0.4 + 0.08 = 13.48

Then I subtracted that from £85.50  by first taking away 48p
85.50 – 0.48 = 85.02
85.02 – 13 = £72.02

Mr Green drives a lorry. Last week he drove 197 miles, 232 miles and 164 miles on his 3 journeys.

This week, he drove 309 miles and 265 miles on his 2 journeys.

What was the difference in mileage between this week and last week?

If each mile costs £1.10 in petrol. How much more did he spend last week?

Mr Green drives a lorry. Last week he drove 197 miles, 232 miles and 164 miles on his 3 journeys.

This week, he drove 309 miles and 265 miles on his 2 journeys.

What was the difference in mileage between this week and last week?

If each mile costs £1.10 in petrol. How much more did he spend last week?

First I added the miles from week 1

197 + 232 + 164

I rounded up 197 to 200

200 + 232 + 164 =
4 + 2 = 6
30 + 60 = 90
200 + 200 + 100 = 500
500 + 90 + 6 = 596

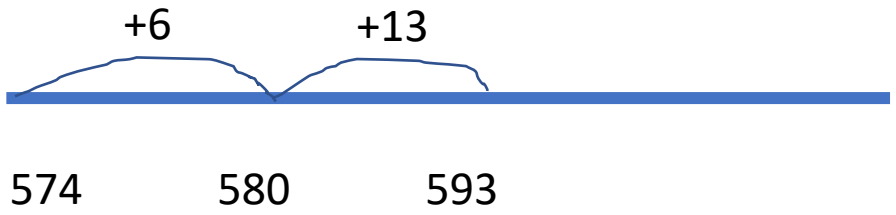
Then I took away the 3 too many that I added
596 – 3 = <u>593</u>

Then I added week 2

265 + 309 =

265 + 300 = 565
565 + 10 = 575
575 – 1 = <u>574</u>

Then I subtracted
593 – 574 by counting up = <u>19p</u>



Mr Green drives a lorry. Last week he drove 197 miles, 232 miles and 164 miles on his 3 journeys.

This week, he drove 309 miles and 265 miles on his 2 journeys.

What was the difference in mileage between this week and last week?

If each mile costs £1.10 in petrol. How much more did he spend last week?

If each of the 19 miles cost £1.10 then

19 x 1 = £19

19 x 0.1 is the same as 19 ÷ 10 = 1.9 which in money is £1.90

£19 + £1.90 = £20.90

BEAM Maths of the Month

# Investigating runs

**456**
**This is a run of three.**
**4 + 5 + 6 = 15**
**The digits total 15.**

**2345**
**This is a run of four.**
**2 + 3 + 4 + 5 = 14**
**The digits total 14.**

**6**
**This is a run of one.**
**6 = 6**
**The digits total 6.**

**1 2 4 5**
**This is NOT a run, because the numbers are not consecutive.**

You can use these digits:

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

And you can make runs of any length from 1 to 9.
For each run you make, find the total of the digits you've used.

1). What totals can you make?
2). What totals can you NOT make?
3). What totals can you make in more than one way?

4). Can you find any rules or patterns?
Can you make any generalisations?
Can you work systematically?