

More Addition and Subtraction

Add/subtract multiples and near-multiples of 10, 100, 1000 Objectives

Tuesday

Use place value to add multiples of 1, 10, 100 to 2-digit and 3-digit numbers

Use place value to add multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

Wednesday

Add near multiples of 10 and 100 to two and three-digit numbers

Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

Thursday

Use place value to subtract multiples of 1, 10, 100 from 2-digit and 3-digit numbers

Use place value to subtract multiples of 1, 10, 100, 1000 from numbers with up to 4 digits

Friday

Subtract near multiples of 10 and 100 from 2-digit and 3-digit numbers

Subtract near multiples of 1, 10 and 100 from numbers with up to 4 digits

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Use place value to add multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

Day 1: Use place value to add multiples of 1, 10, 100 to 2-digit and 3-digit numbers;
Use place value to add multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

Copy this **place value** grid onto your whiteboards.

100s	10s	1s
2	5	6

Now write the number **256** in the grid.


How many **100s** are there?

How many **10s** are there?


How many **1s** are there?

Day 1: Use place value to add multiples of 1, 10, 100 to 2-digit and 3-digit numbers;
Use place value to add multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

100s	10s	1s
2	6	6

Write the answer to
 $256 + 10$
on your place value grid. 

Talk to your partner.
Which digit did you
change? How did
you know which to
change?



Now try
 $256 + 20$ and **$256 + 30$** .

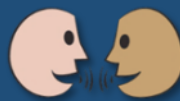
Day 1: Use place value to add multiples of 1, 10, 100 to 2-digit and 3-digit numbers;
Use place value to add multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

100s	10s	1s
3	5	6

Now write the answer to
 $256 + 100$
on your place value grid.



Talk to your partner.
Which digit did you
change? How did
you know?



Now try
 $256 + 200$ and **$256 + 400$** .

Day 1: Use place value to add multiples of 1, 10, 100 to 2-digit and 3-digit numbers;
Use place value to add multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

100s	10s	1s
2	5	6

Now write the answer to
 $256 + 3$
on your place value grid.



Talk to your
partner. Which digit
did you change?
How did you know?



Now try
 $256 + 1$ and **$256 + 5$** .

Adding multiples of 1s, 10s and 100s to 3 digit numbers

Sheet 1

Set A

$462 + 4 = \text{[]}$

$635 + 3 = \text{[]}$

$371 + 20 = \text{[]}$

$527 + 40 = \text{[]}$

$286 + 200 = \text{[]}$

$158 + 300 = \text{[]}$

Set B

$563 + 400 = \text{[]}$

$381 + 8 = \text{[]}$

$214 + 60 = \text{[]}$

$427 + 70 = \text{[]}$

$644 + 5 = \text{[]}$

$195 + 800 = \text{[]}$

$286 + 500 = \text{[]}$

$439 + 50 = \text{[]}$

Set C

$438 + 7 = \text{[]}$

$345 + 60 = \text{[]}$

$722 + 9 = \text{[]}$

$927 + 6 = \text{[]}$

$653 + 50 = \text{[]}$

$584 + 40 = \text{[]}$

Challenge



Day 1: Use place value to add multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

$$352 + 204 = ?$$

$$300 + 200 = ?$$

Talk to your partner...
Is there an efficient way to work this out?

$$2 + 4 = ?$$

We can use **place value** and **number facts** to help.

Day 1: Use place value to add multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

Now try $352 + 230$
and $3265 + 4524$.

What number facts and knowledge of place value helped with those?
Remember you can always write the numbers on a 3 or 4-digit place value grid to check.

Using place value to add

Sheet 2

Set A

1. $500 + 40$

2. $350 + 7$

3. $600 + 7$

4. $400 + 25$

5. $431 + 256$

6. $507 + 80$

7. $330 + 45$

8. $430 + 340$

Set B

1. $5000 + 40$

2. $7040 + 205$

3. $430 + 2006$

4. $4358 + 101$

5. $2372 + 220$

6. $6930 + 34$

7. $3654 + 2005$

8. $3000 + 201$

Set C

1. $7044 + 430$

2. $2600 + 307$

3. $3030 + 3303$

4. $4545 + 5454$

5. $4365 + 225$

6. $930 + 80$

7. $5277 + 2141$

8. $2800 + 3600$

Challenge



More Addition and Subtraction

Add/subtract multiples and near-multiples of 10, 100, 1000

Objectives

Wednesday

Add near multiples of 10 and 100 to two and three-digit numbers

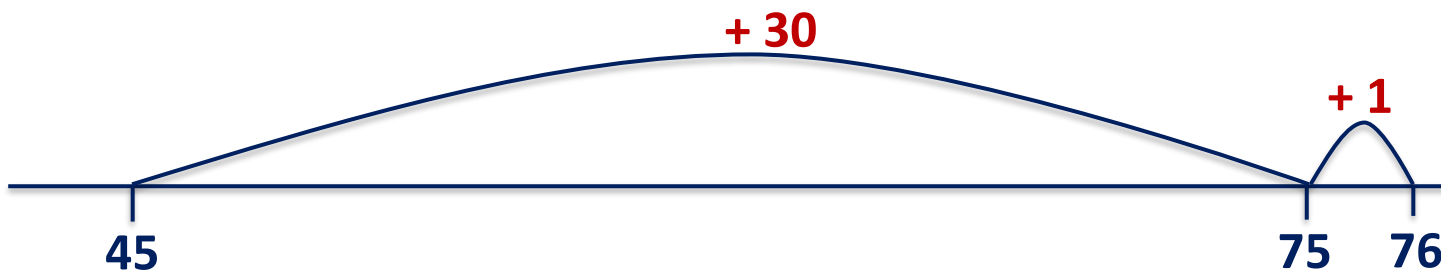
Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

Day 2: Add near multiples of 10 and 100 to two and three-digit numbers; Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits.

What is $45 + 30$?
How do you know?

What is $45 + 31$?
How do you know?

It's just **1**
more!



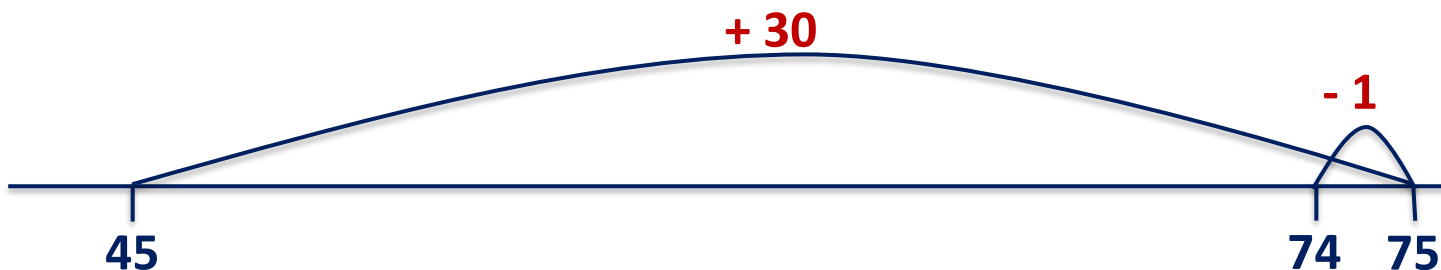
We can write it like this:
 $45 + 31 = 45 + 30 + 1 = 76$

Day 2: Add near multiples of 10 and 100 to two and three-digit numbers; Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits.

What about $45 + 29$?

$$45 + 30 = 75$$

Add **30** and go back **1**, can you see why?

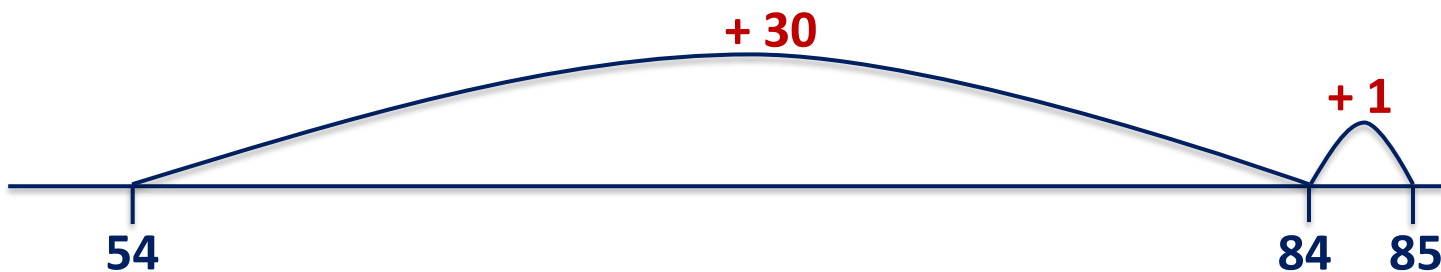


We can write it like this:
 $45 + 29 = 45 + 30 - 1 = 74$

Day 2: Add near multiples of 10 and 100 to two and three-digit numbers; Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits.

What is $54 + 30$?

So how can we find
 $54 + 31$ and $54 + 29$?

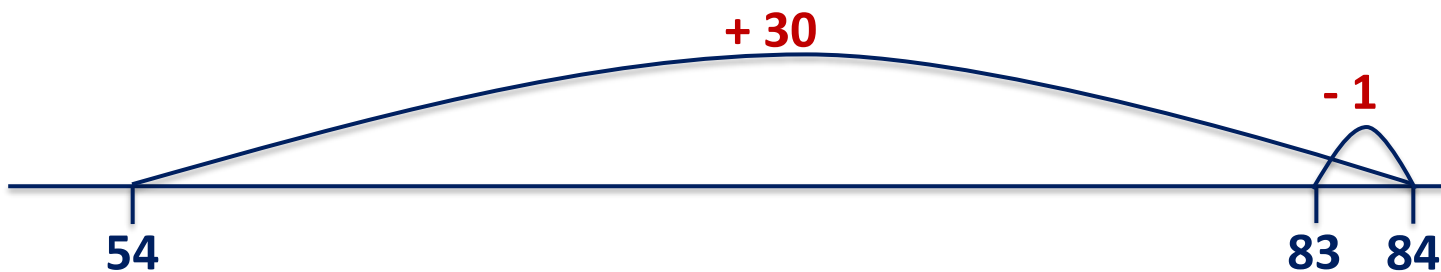


$$54 + 31 = 54 + 30 + 1 = 85$$

Day 2: Add near multiples of 10 and 100 to two and three-digit numbers; Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits.

Now $54 + 29$...

Add 30 and
go back 1 .



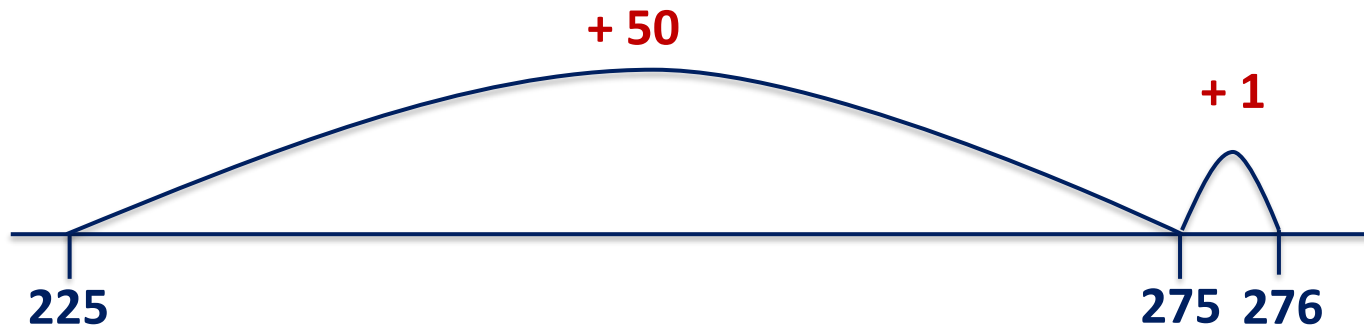
$$54 + 29 = 54 + 30 - 1 = 83$$

Day 2: Add near multiples of 10 and 100 to two and three-digit numbers; Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits.

Let's use an empty number line to show $225 + 50$.

What if we wanted to add **51** not 50?

$$225 + 50 = 275$$



$$225 + 51 = 276$$

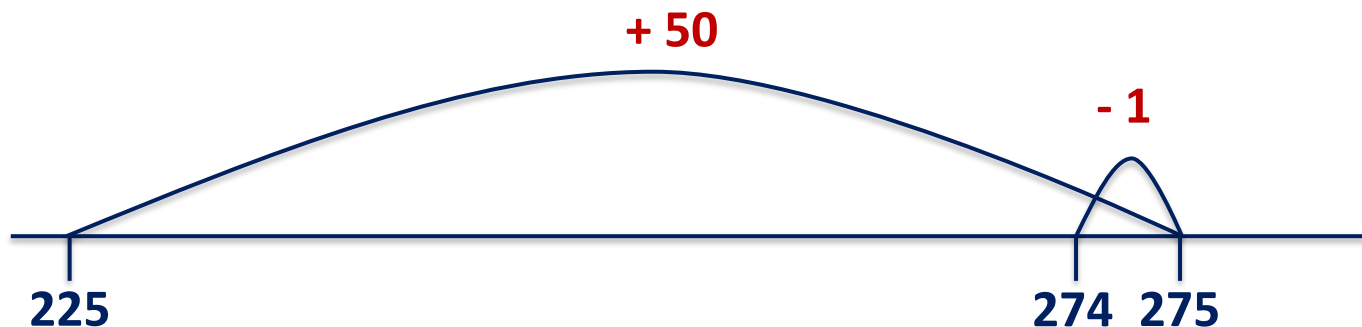
We add on **1** more.

Day 2: Add near multiples of 10 and 100 to two and three-digit numbers; Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits.

What if we wanted to add **49** not **50** to **225**?

We add the **50**...

... then adjust by **subtracting 1**.



$$225 + 49 = 274$$

Day 2: Add near multiples of 10 and 100 to two and three-digit numbers; Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits.

Work in 3s to add 30, 31 and 29 to 635. Each of you choose one to do.



You can do it in your head if you prefer – but do draw a number line to check!

Adding multiples and near multiples

Sheet 2

Record your jottings on the empty number lines.

1. $346 + 20 =$ $346 + 21 =$

2. $257 + 20 =$ $257 + 21 =$

3. $935 + 30 =$ $935 + 31 =$

4. $726 + 30 =$ $726 + 31 =$

5. $412 + 40 =$ $412 + 41 =$

6. $552 + 20 =$ $552 + 21 =$ $552 + 19 =$

7. $674 + 30 =$ $674 + 31 =$ $674 + 29 =$

8. $261 + 40 =$ $261 + 41 =$ $261 + 39 =$

Adding multiples of 10 and 100 and multiples +1, -1

Sheet 5

1. $156 + 20$ $156 + 19$ $156 + 21$

2. $347 + 40$ $347 + 39$ $347 + 41$

3. $661 + 30$ $661 + 29$ $661 + 31$

4. $346 + 100$ $346 + 99$ $346 + 101$

5. $257 + 200$ $257 + 199$ $257 + 201$

6. $435 + 300$ $435 + 299$ $435 + 301$

7. $726 + 100$ $726 + 99$ $726 + 101$

8. $412 + 400$ $412 + 399$ $412 + 401$

9. $189 + 30$

10. $275 + 40$

Challenge

Tom starts with a number. He adds 99 nine times to it to get exactly 1000.
What number did he start with?

Challenge



More Addition and Subtraction

Add/subtract multiples and near-multiples of 10, 100, 1000

Objectives

Thursday

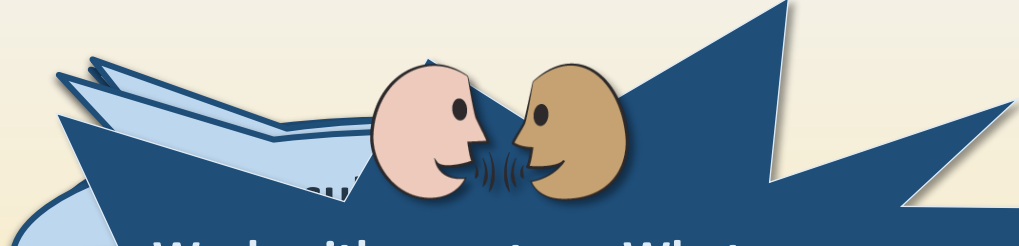
Use place value to subtract multiples of 1, 10, 100 from 2-digit and 3-digit numbers

Use place value to subtract multiples of 1, 10, 100, 1000 from numbers with up to 4 digits

Day 3: Use place value to subtract multiples of 1, 10, 100 from 2-digit and 3-digit numbers; Use place value to subtract multiples of 1, 10, 100, 1000 from numbers with up to 4 digits.

Y3 start with 867.

Y4 start with 5867.

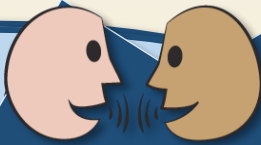


Work with a partner. What do you need to subtract from your number to leave 111 (Y3) or 1111 (Y4)?

Day 3: Use place value to subtract multiples of 1, 10, 100 from 2-digit and 3-digit numbers; Use place value to subtract multiples of 1, 10, 100, 1000 from numbers with up to 4 digits.

Y3 start with 785.

Y4 start with 2785.



Work with a partner. What do you need to subtract from your number to leave 111 (Y3) or 1111 (Y4)?

Using place value to subtract

Sheet 2

Set A	Set B	Set C
1. $580 - 40$	1. $5280 - 40$	1. $7544 - 430$
2. $358 - 3$	2. $7652 - 200$	2. $2688 - 307$
3. $758 - 30$	3. $2566 - 21$	3. $9999 - 1234$
4. $388 - 25$	4. $4358 - 101$	4. $8085 - 1005$
5. $467 - 246$	5. $2372 - 220$	5. $9836 - 2315$
6. $750 - 600$	6. $6960 - 340$	6. $9630 - 50$
7. $360 - 120$	7. $3654 - 2001$	7. $8200 - 400$
8. $350 - 150$	8. $3333 - 201$	8. $7777 - 707$

Challenge



Day 3: Use place value to subtract multiples of 1, 10, 100 from 2-digit and 3-digit numbers.

Copy this **place value** grid onto your whiteboards.

100s	10s	1s
8	5	6

Now write the number **856** in the grid.

Check each **digit** is in the correct place value column.

Day 3: Use place value to subtract multiples of 1, 10, 100 from 2-digit and 3-digit numbers.

100s	10s	1s
8	4	6

Write the answer to
856 - 10
on your place value grid.



Talk to your partner.
Which digit did you
change? How did you
know?



Now try
856 - 20 and **856 - 40**.

Day 3: Use place value to subtract multiples of 1, 10, 100 from 2-digit and 3-digit numbers.

100s	10s	1s
7	5	6

Write the answer to
856 - 100
on your place value grid.



Talk to your partner.
Which digit did you
change? How did you
know?



Now try
856 - 200 and **856 - 400**.

Day 3: Use place value to subtract multiples of 1, 10, 100 from 2-digit and 3-digit numbers.

100s	10s	1s
8	5	2

Write the answer to
856 - 4
on your place value grid.



Talk to your partner.
Which digit did you
change? How did you
know?



Now try
856 - 2 and **856 - 6**

Subtracting 1s, 10s or 100s from 3-digit numbers

Sheet 1

Section A

1. $45 - 2 =$
2. $45 - 20 =$
3. $74 - 3 =$
4. $74 - 30 =$
5. $56 - 4 =$
6. $56 - 40 =$
7. $78 - 6 =$
8. $78 - 60 =$

Section B

1. $432 - 1 =$
2. $432 - 10 =$
3. $432 - 100 =$
4. $546 - 2 =$
5. $546 - 20 =$
6. $546 - 200 =$
7. $658 - 4 =$
8. $658 - 40 =$
9. $658 - 400 =$
10. $979 - 6 =$
11. $979 - 60 =$
12. $979 - 600 =$

Section C

1. 84 people are on a coach, 20 get off in Manchester. How many are left on the coach?
2. 76 people are on a coach, 4 get off in Birmingham. How many are left on the coach?
3. 367 people are on an aeroplane, 200 get off in Singapore. How many are left on the aeroplane?
4. 453 people are on an aeroplane, 40 get off in New York. How many are left on the aeroplane?
5. 569 people are on an aeroplane, 8 get off in Milan. How many are left on the aeroplane?
6. 625 people are on an aeroplane, 30 get off in Tokyo. How many are left on the aeroplane?

More Addition and Subtraction

Add/subtract multiples and near-multiples of 10, 100, 1000

Objectives

Friday

Subtract near multiples of 10 and 100 from 2-digit and 3-digit numbers

Subtract near multiples of 1, 10 and 100 from numbers with up to 4 digits

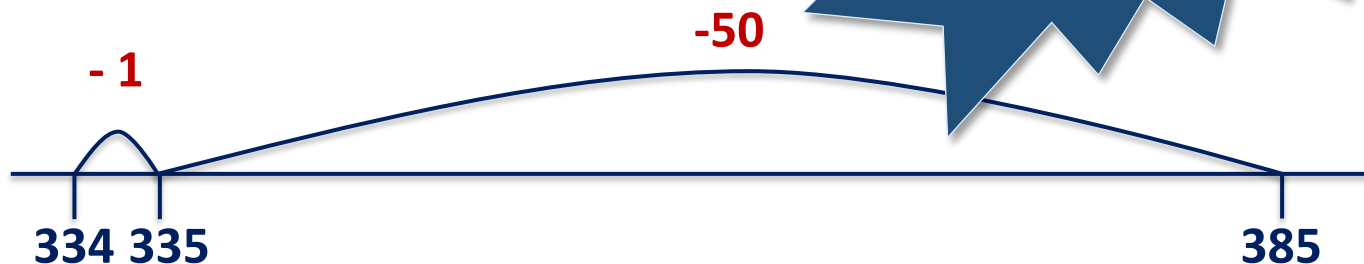
Day 4: Subtract near multiples of 10 and 100 from 2-digit and 3-digit numbers

Subtract near multiples of 1, 10 and 100 from numbers with up to 4 digits

Draw an empty number line on your whiteboards to show $385 - 50$.



Talk to your partner. What if we wanted to subtract **51** not 50?



Subtract **1** more.

$$385 - 50 = 335$$

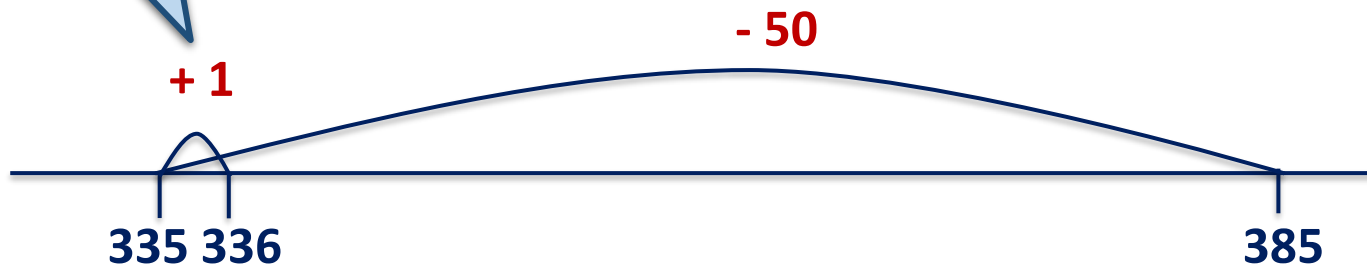
$$385 - 51 = 334$$

Day 4: Subtract near multiples of 10 and 100 from 2-digit and 3-digit numbers

Subtract near multiples of 1, 10 and 100 from numbers with up to 4 digits

This time we add **1** to *adjust* the answer.

Talk to your partner. What if we wanted to subtract **49** not **50** from 385?



$$385 - 49 = 336$$

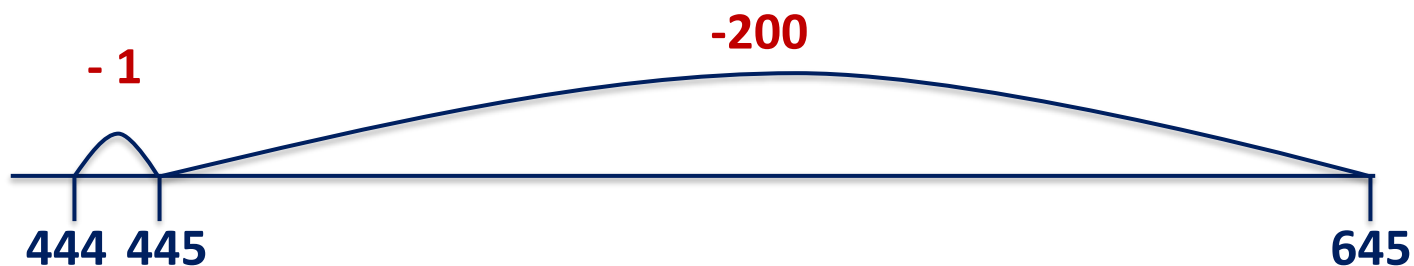
Day 4: Subtract near multiples of 10 and 100 from 2-digit and 3-digit numbers

Subtract near multiples of 1, 10 and 100 from numbers with up to 4 digits

Now try $645 - 200$

Talk to your partner.

To find $645 - 201$
which way do we
adjust?



Subtract **1**
more.

$$645 - 200 = 445$$

$$645 - 201 = 444$$

Day 4: Subtract near multiples of 10 and 100 from 2-digit and 3-digit numbers

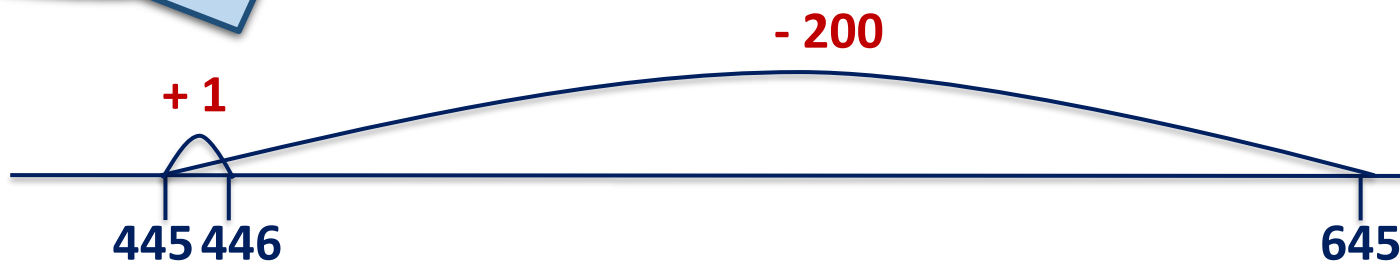
Subtract near multiples of 1, 10 and 100 from numbers with up to 4 digits



Now on your whiteboards show what happens if we subtract **199** not **200** from **645**.

$$645 - 199 = 446$$

This time we **adjust** by **adding 1**.



Subtracting multiples and near multiples

Sheet 2

Record your jottings on the empty number lines.

1. $346 - 20 =$ $346 - 21 =$

2. $257 - 20 =$ $257 - 21 =$

3. $955 - 30 =$ $955 - 31 =$

4. $786 - 30 =$ $786 - 31 =$

5. $432 - 20 =$ $432 - 21 =$

6. $776 - 30 =$ $776 - 29 =$ $776 - 31 =$

7. $935 - 30 =$ $935 - 29 =$ $935 - 31 =$

8. $492 - 40 =$ $492 - 39 =$ $492 - 41 =$

Subtracting multiples and near multiples of 10 and 100

Sheet 4

Bronze

$869 - 50$

$598 - 201$

$686 - 21$

$788 - 500$

$676 - 30$

$959 - 701$

Silver

$678 - 39$

$789 - 601$

$568 - 49$

Gold

$521 - 41$

$725 - 699$

$649 - 51$

Challenge

What digits can you use to complete this number sentence, so that it is correct?

$$3 \square 7 + \square 9 + \square 9 - 89 = 446$$

Find at least two solutions.

Challenge



More Addition and Subtraction

Add/subtract multiples and near-multiples of 10, 100, 1000

Well Done! You've completed this unit.



Objectives

Day 1

Use place value to add multiples of 1, 10, 100 to 2-digit and 3-digit numbers

Use place value to add multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

Day 2

Add near multiples of 10 and 100 to two and three-digit numbers

Add near multiples of 1, 10, 100, 1000 to numbers with up to 4 digits

Day 3

Use place value to subtract multiples of 1, 10, 100 from 2-digit and 3-digit numbers

Use place value to subtract multiples of 1, 10, 100, 1000 from numbers with up to 4 digits

Day 4

Subtract near multiples of 10 and 100 from 2-digit and 3-digit numbers

Subtract near multiples of 1, 10 and 100 from numbers with up to 4 digits

Problem solving and reasoning questions

Year 3

Add 80 to 263 then subtract 1. How much bigger is your answer than 263?

Use number cards 9, 1, 5 and 7. How many additions of near multiples can you create?

Mystery number

What ONE number makes this sentence true?

$$76 - ? = 18 + ?$$

How many times will you add 19 to 24 to reach 100? What number will you start with if you add 18 repeatedly and reach 100 exactly?

Problem solving and reasoning **answers**

Year 3

Add 80 to 263 then subtract 1. How much bigger is your answer than 263? **The answer, 342, is 79 bigger. Some may answer 81, simply adding the 80 and 1.**

Use number cards 9, 1, 5 and 7. How many additions of near multiples can you create?

These occur when either the 1 or the 9 digit (or both) are in the 1s place:

79 + 51, 97 + 51, 59 + 71, 95 + 71, 57 + 91, 75 + 91, 17 + 59, 15 + 79, 57 + 19, 75 + 19.

NB Children may include answers with the numbers the other way round, e.g. 51 + 79 rather than 79 + 51 or include both.

Mystery number...

What ONE number makes this sentence true? **29**

76 – 29 = 18 + 29 Best found by trial and improvement, although some children may work out that 29 is half the difference between 76 and 18.

How many times will you add 19 to 24 to reach 100? **4 times, the sequence is: 24, 43, 62, 81, 100**

What number will you start with if you add 18 repeatedly and reach 100 exactly? **You would have to start at 10 and add 18 five times: 10, 28, 46, 64, 82, 100.**

Problem solving and reasoning questions

Year 4

Complete this sequence by adding 198 each time.

169, 367, ____, 763, ____, ____

What needs to be subtracted from 985 to get 587?

Harry subtracted 59 from 354 and got 293. Explain what he did wrong.

Complete the number sentences:

$$438 + 39 = \underline{\quad}$$

$$356 - \underline{\quad} = 307$$

$$\underline{\quad} - 198 = 314$$

Problem solving and reasoning **answers**

Year 4

Complete this sequence by adding 198 each time.

169, 367, **565**, 763, **961**, **1159**

What needs to be subtracted from 985 to get 587? **398**

Harry subtracted 59 from 354 and got 293. Explain what he did wrong.
He has adjusted 'the wrong way'. $354 - 60 = 294$. Since 59 is being subtracted he should add 1 back to get to the answer (295), instead he has subtracted 1 more.

Complete the number sentences:

$$438 + 39 = \mathbf{477}$$

$$356 - \mathbf{49} = 307$$

$$\mathbf{512} - 198 = 314$$