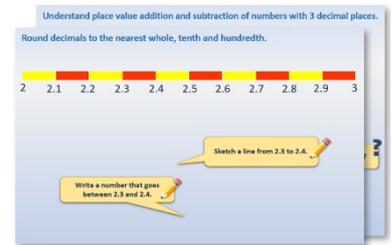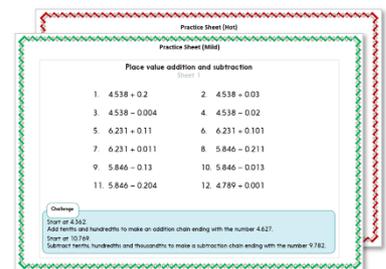# Year 5: Week 1, Day 1
Mental addition and subtraction strategies

Each day covers one maths topic. It should take you about 1 hour or just a little more.
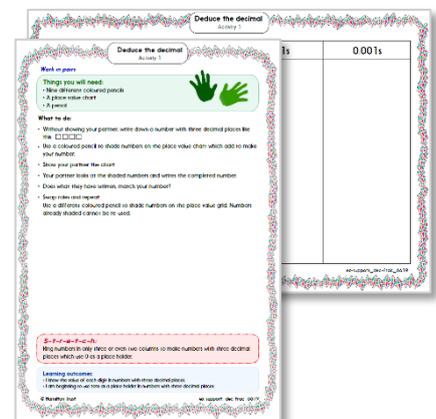
1. Start by reading through the **Learning Reminders**.
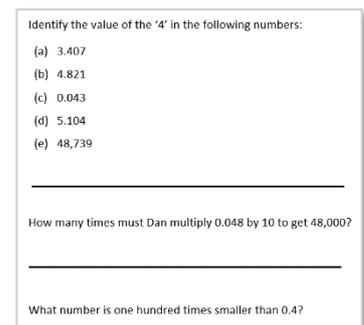   They come from our *PowerPoint* slides.

2. Tackle the questions on the **Practice Sheet**.
   There might be a choice of either Mild (easier) or
   Hot (harder)!
   Check the answers.

3. Finding it tricky? That's OK… have a go with a
   grown-up at **A Bit Stuck?**

4. Have I mastered the topic? A few questions to
   Check your understanding.
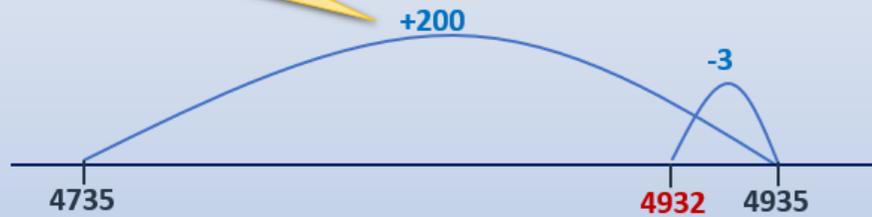   Fold the page to hide the answers!

Learning Reminders

Use place value to add and subtract; add and subtract near multiples of 100 and 1000.

If we can use place value to add 200 to 4735, we can use this answer to add 197 to 4735.

197 is a 'nearly' number – it's nearly a multiple of 100. This 'add and adjust' strategy makes adding near-multiples of 100 a bit more straightforward...

Add 200 to 4735 and write the answer. Now use this answer to add 197 to 4735.

+200

-3

4735   4932   4935

Use place value to add and subtract; add and subtract near multiples of 100 and 1000.

This works for subtraction too... Subtract 200 from 4735 and write the answer. Then use this answer to subtract 197 from 4735.

This time we 'subtract and adjust' to make subtracting a near-multiple of 100 a bit more straightforward...

-200

+3

4535   4538   4735
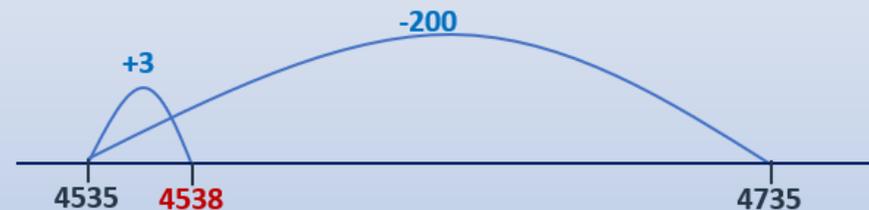
Learning Reminders

Use place value to add and subtract near multiples of 100, 1000 and 10,000.

The 'add and adjust' strategy also works for near-multiples of 1000.

What is 52,435 + 998...?
Add 1000 and write the answer.
Now use this answer to add 998 to 52,435.

+1000

-2

52,435   53,433   53,435

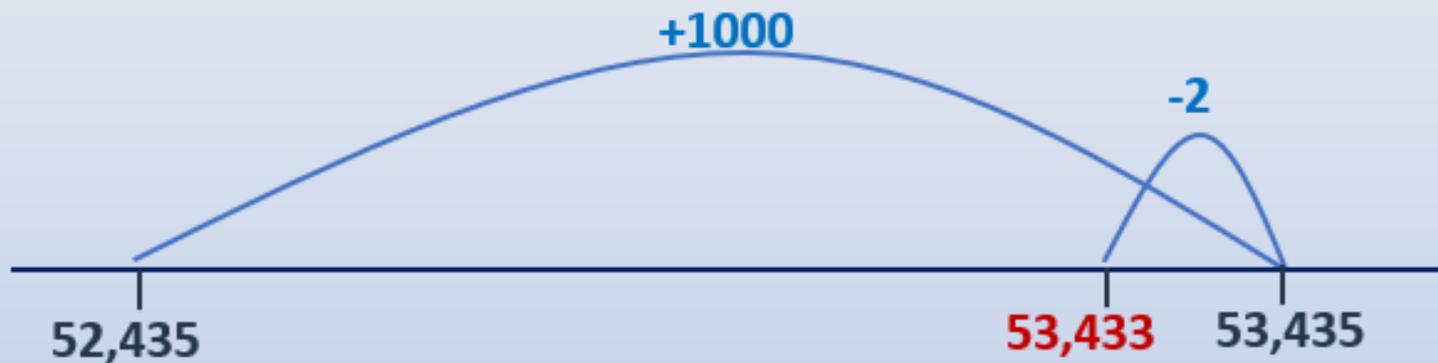© Hamilton Trust

Learning Reminders

Use place value to add and subtract; add and subtract near multiples of 100, 1000 and 10,000.

Try these...

52,435

Add 2000 and write the answer. Use this answer to add 1995 to 52,435.

Subtract 2000 and write the answer. Now use this answer to subtract 1995 from 52,435.

Add 300 and write the answer. Use this answer to add 297 to 52,435.

Subtract 300 and write the answer. Now use this answer to subtract 297 from 52,435.

Practice Sheet Mild
Mental addition and subtraction

1. 4580 + 205

2. 8040 + 508

3. 3452 + 2005

4. 4293 + 4300

5. 8572 - 502

6. 4783 - 480

7. 8536 - 2004

8. 4563 + 2000

9. 4563 + 1999

10. 7845 - 2000

11. 7845 - 1999

12. 3425 + 400

13. 3425 + 399

14. 7845 - 200

15. 7845 - 199

Challenge

Zoe thinks of a number and adds 2988. She then subtracts 1100. Her answer is 8888. What number did she start with?

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Practice Sheet Hot
Mental addition and subtraction

1. 64,378 + 3001

2. 78,745 - 21,000

3. 45,063 + 2300

4. 78,462 - 8002

5. 45,364 + 19,999

6. 74,874 + 2999

7. 43,473 + 398

8. 87,532 - 29,999

9. 63,467 - 1998

10. 54,879 - 495

Challenge

Mia thinks of a number and subtracts 5555. She then adds 1010. Her answer is 5454. What number did she start with?

Extra Practice Sheet for All
Mental addition and subtraction

1. 3002 + 450

2. 9784 - 704

3. 4723 + 402

4. 2538 + 2001

5. 9826 - 803

6. 4782 - 502

7. 3782 + 200

8. 3782 + 198

9. 4658 - 100

10. 4658 - 97

11. 3478 + 1000

12. 3478 + 999

13. 5298 - 1000

14. 5298 - 999

15. 4578 + 321

16. 8734 - 6031

17. 23,472 - 2222

18. 45,310 + 3409

19. 8345 + 397

20. 7935 - 298

21. 3458 + 1997

22. 9768 - 2995

23. 45,237 + 3900

24. 57,345 - 2998

Challenge

Start with 9999. Subtract 2424. Add 1313. What pattern do you get? How many times can you do this before you reach 0?

Practice Sheet Answers

Mental addition and subtraction (mild)

1. 4580 + 205 = 4785
2. 8040 + 508 = 8548
3. 3452 + 2005 = 5457
4. 4293 + 4300 = 8593
5. 8572 - 502 = 8070
6. 4783 - 480 = 4303
7. 8536 - 2004 = 6532
8. 4563 + 2000 = 6563
9. 4563 + 1999 = 6562
10. 7845 - 2000 = 5845
11. 7845 - 1999 = 5846
12. 3425 + 400 = 3825
13. 3425 + 399 = 3824
14. 7845 - 200 = 7645
15. 7845 - 199 = 7646

Challenge

Zoe started with 7000.

Mental addition and subtraction (hot)

1. 64,378 + 3001 = 67,379
2. 78,745 - 21,000 = 57,745
3. 45,063 + 2300 = 47,363
4. 78,462 - 8002 = 70,460
5. 45,364 + 19,999 = 65,363
6. 74,874 + 2999 = 77,873
7. 43,473 + 398 = 43,871
8. 87,532 - 29,999 = 57,533
9. 63,467 - 1998 = 61,469
10. 54,879 - 495 = 54,384

Challenge

Mia started with 9999.

Practice Sheet Answers

Mental addition and subtraction (extra practice for all)

1. 3002 + 450 = 3452
2. 9784 - 704 = 9080
3. 4723 + 402 = 5125
4. 2538 + 2001 = 4539
5. 9826 - 803 = 9023
6. 4782 - 502 = 4280
7. 3782 + 200 = 3982
8. 3782 + 198 = 3980
9. 4658 - 100 = 4558
10. 4658 - 97 = 4561
11. 3478 + 1000 = 4478
12. 3478 + 999 = 4477
13. 5298 - 1000 = 4298
14. 5298 - 999 = 4299
15. 4578 + 321 = 4899
16. 8734 - 6031 = 2703
17. 23,472 - 2222 = 21,250
18. 45,310 + 3409 = 48,719
19. 8345 + 397 = 8742
20. 7935 - 298 = 7637
21. 3458 + 1997 = 5455
22. 9768 - 2995 = 6773
23. 45,237 + 3900 = 49,137
24. 57,345 - 2998 = 54,347

Challenge

When subtracting 2424 and adding 1313, you are in fact subtracting 1111 each time. You can do this nine times, before you reach 0.

Work in pairs

Things you will need:
• A pencil

What to do:

• Start with 7654.

• Choose a number to add or subtract from those below. Tick it off. Write down the answer.

• Choose a different number to add or subtract from this new number. Tick it off.

• Keep going until you have added and subtracted every number.

• You can add and subtract the numbers in any order you want, BUT choose a different order to your partner.

7654
+ 200
7854
- 2000
5854
...

• Keep a record of your answers and what you have added or subtracted each time so that you can check your work later.

• Compare your answer with your partner's. Are they the same? Should they be? Why/why not? Do you need to check your work?

• What do you notice about the digits in your answer compared with the digits in the starting number?

+2000   +200   -5000   +40   -30   +5   -300   -2
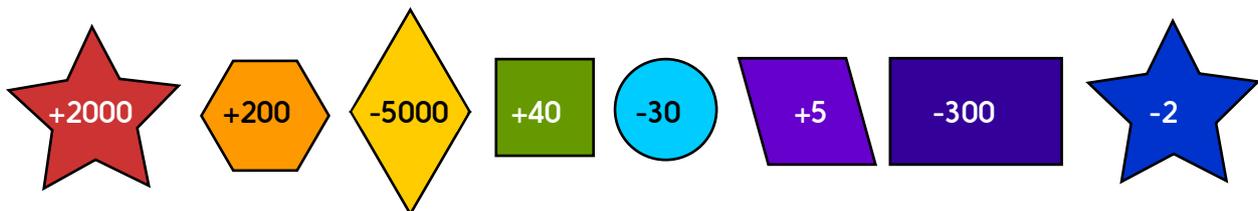
S-t-r-e-t-c-h:
Write a chain of additions and subtractions that will get you back to the starting number.

Learning outcomes:
• I can use place value to add and subtract multiples of 1, 10, 100 and 1000 to and from 4-digit numbers (not crossing 10s, 100s or 1000s).
• I am beginning to solve problems using place value.

Check your understanding
Questions

Predict what the ones digit of your answer will be if you carry out the following sequence:
Start with 98,765.
Subtract 9999
Subtract 999
Subtract 99
Subtract 9
What number are you left with?

What number must I add to 9998 to get 33,454?

What mistake has Tom made in this subtraction?
6734 – 997 = 5731

Check your understanding
Answers

Predict what the ones digit of your answer will be if you carry out the following sequence:
Start with 98,765.
Subtract 9999
Subtract 999
Subtract 99
Subtract 9
What number are you left with? 87,659.   I can predict that the answer will end in 9. Each of the subtractions can be done by subtracting 1 extra, e.g. 10,000 rather than 9999, 1000 rather than 999 etc. There are 4 subtractions to be done in this way, so 4 must be added on to compensate.

What number must I add to 9998 to get 33,454?   23,456. Subtract 9998 from 33,454 to find answer by subtracting 10,000 then adding to adjust. An answer of 23,452 suggests that you are adjusting wrongly.

What mistake has Tom made in this subtraction? 6734 – 997 = 5731
He has adjusted the wrong way, subtracting 1000 then subtracting 3 more rather than adding 3 back. The correct answer is 5737.