

Subtracting whole numbers with more than 4 digits 1

1 Solve the following calculations.

a) $24,592 - 3,470 = \boxed{}$

TTh	Th	H	T	O
20000	4000	500	90	2

$$\begin{array}{r} \text{TTh Th H T O} \\ 24592 \\ - 3470 \\ \hline \end{array}$$

b) $51,340 - 30,720 = \boxed{}$

TTh	Th	H	T	O
50000	1000	300	40	0

$$\begin{array}{r} \text{TTh Th H T O} \\ 51340 \\ - 30720 \\ \hline \end{array}$$

c)
$$\begin{array}{r} \text{TTh Th H T O} \\ 4365 \\ - 2423 \\ \hline \end{array}$$

d)
$$\begin{array}{r} \text{TTh Th H T O} \\ 76185 \\ - 5224 \\ \hline \end{array}$$

e) $15,712 - 6,000 = \boxed{}$

2 Work out the missing numbers.

a)

73,200	
25,000	

TTh Th H T O

b)

48,923	
37,382	

TTh Th H T O

3 a) A house costs £127,365. The house next door costs £102,724.

How much less does the house next door cost?



The house next door costs £ less.

b) A new car costs £18,495. A motorbike costs £7,620.

How much cheaper is the motorbike than the car?



The motorbike is £ cheaper than the car.

4 Fill in the missing digits.

$$\begin{array}{r} \text{TTh Th H T O} \\ 2 \quad 6 \quad 1 \quad 8 \\ - \quad 4 \quad \quad 2 \\ \hline 2 \quad \quad 4 \quad 5 \quad 0 \end{array}$$

$$\begin{array}{r} \text{TTh Th H T O} \\ \quad 9 \quad 9 \quad \quad 3 \\ - 1 \quad \quad 6 \quad 2 \quad 7 \\ \hline 3 \quad 5 \quad \quad 5 \end{array}$$

5 Three chests each contain some treasure.

- The first chest contains 18,455 coins.
- The second chest contains 4,200 fewer coins than the first chest.
- The third chest contains 5,120 fewer coins than the second chest.

How many coins are in each treasure chest?

The first chest contains coins.

The second chest contains coins.

The third chest contains coins.

CHALLENGE

Reflect

Imagine you are teaching a partner how to work out $32,728 - 14,605$. Explain each step to them.

Subtracting whole numbers with more than 4 digits 2

1 Work out the answers to the following subtractions.

You can use the counters and place value grids to help you.

a) $7,243 - 4,826 = \boxed{}$

Th	H	T	O

$$\begin{array}{r} \text{Th H T O} \\ 7 \quad 2 \quad 4 \quad 3 \\ - 4 \quad 8 \quad 2 \quad 6 \\ \hline \end{array}$$

b) $72,108 - 48,468 = \boxed{}$

TTh	Th	H	T	O


$$\begin{array}{r} \text{TTh Th H T O} \\ 7 \quad 2 \quad 1 \quad 0 \quad 8 \\ - 4 \quad 8 \quad 4 \quad 6 \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} \text{TTh Th H T O} \\ 1 \quad 2 \quad 5 \quad 9 \quad 5 \\ - 1 \quad 0 \quad 9 \quad 4 \quad 8 \\ \hline \end{array}$$


$$\begin{array}{r} \text{TTh Th H T O} \\ 5 \quad 3 \quad 7 \quad 0 \quad 2 \\ - 4 \quad 8 \quad 9 \quad 5 \quad 3 \\ \hline \end{array}$$

2 Work out the answers to the following subtractions.


a) $34,420 - 28,073$




c) Subtract 729 from 84,381




b) $51,726 - 12,763$



d) $729,482 - 78,359$



3 A ball pool contains 76,350 balls. 18,926 balls are removed each hour. How many balls are left in the ball pool after 3 hours?



There are balls left in the ball pool after 3 hours.

4 Fill in the missing digits.

a)


	TTh	Th	H	T	O
			5	0	6
-		4			2
	2	6	7		

b)


	TTh	Th	H	T	O
	3	9	2		
-			8	3	7
	2	7	3	8	0

5 Find the answers to the following calculations.

a) $2,700 - 1,375 =$




b) $27,000 - 18,904 =$



6 349,500 people attend a charity concert. There are 186,956 adults at the concert and the rest are children. Of the children who attend, 73,290 are girls.

How many boys attend the concert?







boys attend the concert.

CHALLENGE

Reflect

Max subtracts a 5-digit number from a 5-digit number. It involves two exchanges.

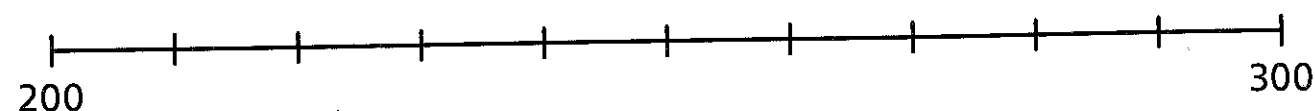
Write a possible subtraction. Explain how you know it involves two exchanges.

Using rounding to estimate and check answers

1 Use rounding to estimate the answers to the following calculations.

a) $297 + 204$



297 is close to .

204 is close to .

+ =

So, $297 + 204$ must be close to .

b) $6,985 - 1,995$

6,985 is close to .

1,995 is close to .

- =

So, $6,985 - 1,995$ must be close to .

c) $311 + 7,189$

311 is close to .

7,189 is close to .

+ =

So, $311 + 7,189$ must be close to .

2 Bella is working out a question.

a) Use rounding to show that Bella's answer must be incorrect.

12,005 is close to .

7,620 is close to .

+ =

b) What mistake has Bella made?

c) What is the correct answer to the calculation?

$12,005 + 7,620 =$

	TTh	Th	H	T	O	
	1	2	0	0	5	
+	7	6	2	0		
	8	8	2	0	5	

3 Estimate the answer to each of these calculations.

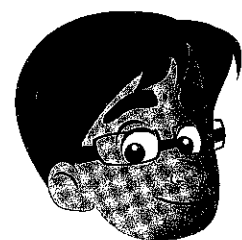
a) $3,395 - 207$

My estimate is .

b) $169,995 + 50,062$

My estimate is .

- 4 Max and Jamie are estimating the answer to $2,187 + 3,703$.

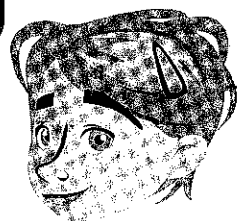


I estimate the answer to be 6,000.

Max

I estimate the answer to be 5,900.

Jamie



Explain how Max and Jamie made their estimates.

Max made his estimate by _____.

Jamie made her estimate by _____.

- 5 a) Estimate the answer to $£19,995 + £3,941 - £4,081$.

CHALLENGE

- b) What is the exact answer to the calculation?

Reflect

It is useful to estimate an answer to a calculation because

Mental addition and subtraction 1

- 1 Mo is working out these calculations in his head.
Write the steps that Mo can use to work out each answer.

a) $45 + 32$

$40 + 30 = \square$

$5 + 2 = \square$

$45 + 32 = \square + \square = \square$

b) $56 + 28 = \square$

c) $5 + 374 = \square$



- 2 Work out mentally the answers to these groups of calculations.

a) $26 + 31 = \square$

$31 + 26 = \square$

$260 + 310 = \square$

$2,600 + 3,100 = \square$

b) $281 + 7 = \square$

$7 + 281 = \square$

$7 + 1,281 = \square$

$7 + 2,810 = \square$

c) $72 + 15 = \square$

$15 + 72 = \square$

$150 + 720 = \square$

$72,000 + 15,000 = \square$

d) $720 + 120 = \square$

$120 + 720 = \square$

$12,000 + 72,000 = \square$

$7,200 + 1,200 = \square$

- 3 Mo is trying to work out the missing number in his head to this calculation:

$$38 + \square = 90$$

First I work out how many I need to add on to make the next 10.

Mo



Then I work out how many 10s I need to add.

Complete the calculation that Mo might do in his head to find the answer.

$$38 + \square = 40$$

$$40 + \square = 90$$

The missing number is \square .

- 4 Use Mo's method in question 3, or your own method, to mentally work out these missing numbers.

a) $56 + \square = 80$

d) $33 + \square = 100$

b) $\square + 14 = 70$

e) $322 + \square = 380$

c) $64 + \square = 670$

f) $5,117 + \square = 5,150$

- 5 Solve the following calculations mentally.

a) $270 + \square = 600$

f) $1,800 + \square = 3,000$

b) $740 + \square = 1,000$

g) $38 + \square = 72$

c) $2,300 + \square = 7,000$

h) $380 + \square = 720$

d) $340 + \square = 900$

i) $29 + \square = 83$

e) $\square + 350 = 800$

j) $35 + \square = 53$

- 6 Fill in the thought bubbles to show how you can work out each of these calculations in your head.

a) $64 + 83$

○○

c) $64 + 830$

○○

b) $260 + 197$

○○

d) $125 + \square = 700$

○○

- 7 Solve these problems mentally.

a) $340 + 890 = \square$

c) $150 + 230 + \square = 800$

b) $38 + 41 + 199 = \square$

CHALLENGE

Reflect

Explain how you can work out each of these calculations in your head.

a) $45 + 32$

b) $450 + 380$

c) $360 + 198$

a) _____

b) _____

c) _____

Mental addition and subtraction 2

- 1 a) Complete these two mental methods for working out $78 - 25$.

$$78 - 20 = \square$$

$$\square - 5 = \square$$

$$\text{So, } 78 - 25 = \square$$

$$70 - 20 = \square$$

$$8 - 5 = \square$$

$$\text{So, } 78 - 25 = \square$$

- b) Complete these two mental methods for working out $670 - 220$.

$$670 - 200 = \square$$

$$\square - 20 = \square$$

$$\text{So, } 670 - 220 = \square$$

$$600 - 200 = \square$$

$$70 - 20 = \square$$

$$\text{So, } 670 - 220 = \square$$

- 2 Solve these calculations mentally.

a) $64 - 21 = \square$

$640 - 210 = \square$

$6,400 - 2,100 = \square$

b) $78 - 41 = \square$

c) $560 - 260 = \square$

d) $97 - 75 = \square$

$970 - 750 = \square$

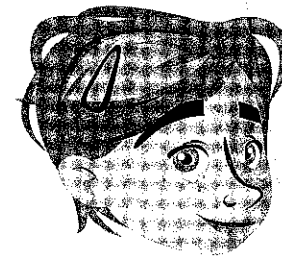
$9,700 - 7,500 = \square$

e) $390 - 140 = \square$

f) $6,600 - 3,400 = \square$

- 3 Jamie is trying to work out the answer to this calculation in her head.

$$85 - 37$$



First I subtract 30.

I then subtract 5 to take me to the next 10.

Jamie

I now subtract 2 more.

- a) Complete the calculation Jamie has done in her head.

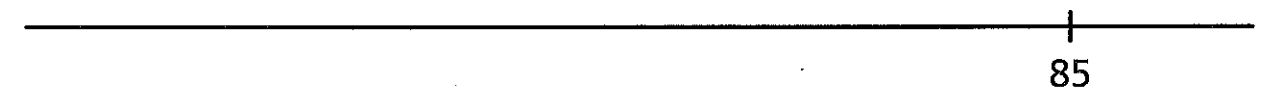
$$85 - 30 = \square$$

$$\square - 5 = \square$$

$$\square - 2 = \square$$

$$\text{So, } 85 - 37 = \square$$

- b) Show Jamie's method on the number line below.



- 4 Work out these calculations mentally.

a) $45 - 18 = \square$

$72 - 45 = \square$

b) $196 - 74 = \square$

$196 - 78 = \square$

c) $52 - 36 = \square$

$92 - 39 = \square$

d) $144 - 62 = \square$

$144 - 66 = \square$

5 Solve these calculations in your head.

a) $192 - 188 = \square$

d) $102 - 89 = \square$

b) $304 - 296 = \square$

e) $401 - 391 = \square$

c) $347 - 339 = \square$

f) $1,200 - 1,184 = \square$

g) The difference between 8,002 and 7,997 is \square .

6 Solve these problems mentally.

a) $324 - 63 = \square$

b) 83 subtracted from 830 = \square

c) $126 + 75 - 194 = \square$

d) $425 - 37 = \square$

e) $126 - 75 + 194 = \square$

CHALLENGE

Using inverse operations

1 Work out an inverse calculation to check each answer below. Then tick the box next to the correct statement.

a) $2,704 - 1,264 = 1,440$

Th	H	T	O
1	4	4	0
+	1	2	6

The answer is correct. ☐

The answer is incorrect. ☐

b) $14,600 + 1,295 = 15,995$

TTh	Th	H	T	O
1	5	9	9	5
-	1	4	6	0

The answer is correct. ☐

The answer is incorrect. ☐

c) $37,010 - 18,482 = 18,468$

TTh	Th	H	T	O
+				

The answer is correct. ☐

The answer is incorrect. ☐

Reflect

Subtract 792 from 801 in your head.

Explain how you did it, and why you did it like this.
