

1 Filip is working out  $607 + 395$

He rounds his numbers to the nearest hundred to estimate the answer.

a) Complete the sentences.

607 rounded to the nearest hundred is

395 rounded to the nearest hundred is

Filip's estimate for the answer is

+  =

b) Use column addition to work out the actual answer.

		Th	H	T	O
			6	0	7
	+		3	9	5
<hr/>					
<hr/>					

The actual answer is

2 Alex is working out  $7,958 - 6,103$

Alex rounds her numbers to the nearest thousand to estimate the answer.

a) Complete the sentences.

7,958 rounded to the nearest thousand is

6,103 rounded to the nearest thousand is

Alex's estimate is

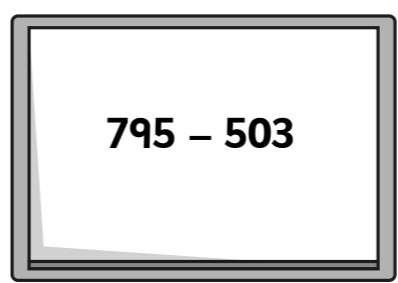
-  =

b) Use column subtraction to work out the actual answer.

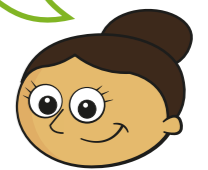
		Th	H	T	O
		7	9	5	8
	-	6	1	0	3
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The actual answer is

3 Mr Howell writes a subtraction on the board.



I estimate the answer will be close to 200 because  $700 - 500 = 200$



What mistake has Dora made?

Write a better estimate.

\_\_\_\_\_

\_\_\_\_\_

4 a) Tom is estimating an addition calculation.

His estimate is  $3,000 + 1,000 = 4,000$

Write three possible additions Tom could be estimating.

+  =

+  =

+  =



b) Dani is estimating a subtraction calculation.

Her estimate is  $\pounds 600 - \pounds 100 = \pounds 500$

Write three possible subtractions Dani could be estimating.

$$\boxed{\phantom{000}} - \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

$$\boxed{\phantom{000}} - \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

$$\boxed{\phantom{000}} - \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

Silver

5 Complete the table. Show your workings.

Question	Estimated answer	Accurate answer
$3,970 \text{ km} - 1,850 \text{ km}$		
$7,076 - 852$		
$7,076 - 652$		
$1,994 \text{ ml} + 1,994 \text{ ml}$		

6 Whitney and Dexter are estimating the answer to  $2,706 - 1,394$

Whitney's estimate is  $3,000 - 1,000 = 2,000$

Dexter's estimate is  $2,700 - 1,400 = 1,300$

Whose estimate is more accurate? Why?

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7 A forest has 2,638 trees.



1,172 more trees are planted.

a) Use rounding to estimate the number of trees in the forest now.

b) Work out the actual number of trees in the forest.

c) How accurate was your estimate?



## Estimate answers

- 1 Filip is working out  $607 + 395$

He rounds his numbers to the nearest hundred to estimate the answer.

- a) Complete the sentences.

607 rounded to the nearest hundred is

395 rounded to the nearest hundred is

Filip's estimate for the answer is

$$\boxed{600} + \boxed{400} = \boxed{1,000}$$

- b) Use column addition to work out the actual answer.

	Th	H	T	O
		6	0	7
+		3	9	5
	1	0	0	2
	1	1	1	

The actual answer is

- 2 Alex is working out  $7,958 - 6,103$

Alex rounds her numbers to the nearest thousand to estimate the answer.

- a) Complete the sentences.

7,958 rounded to the nearest thousand is

6,103 rounded to the nearest thousand is

Alex's estimate is

$$\boxed{8,000} - \boxed{6,000} = \boxed{2,000}$$

- b) Use column subtraction to work out the actual answer.

	Th	H	T	O
	7	9	5	8
-	6	1	0	3
	1	8	5	5

The actual answer is

- 3 Mr Howell writes a subtraction on the board.

$$\boxed{795 - 503}$$

I estimate the answer will be close to 200 because  $700 - 500 = 200$



What mistake has Dora made?

Write a better estimate.

795 rounds to 800 not 700

$800 - 500 = 300$

- 4 a) Tom is estimating an addition calculation.

His estimate is  $3,000 + 1,000 = 4,000$

Write three possible additions Tom could be estimating.

E.g.

$$\boxed{2,999} + \boxed{999} = \boxed{3,998}$$

$$\boxed{3,076} + \boxed{1,200} = \boxed{4,276}$$

$$\boxed{2,621} + \boxed{1,334} = \boxed{3,955}$$

b) Dani is estimating a subtraction calculation.

Her estimate is  $£600 - £100 = £500$

Write three possible subtractions Dani could be estimating.

E.g.

£601	-	£107	=	£494
£649	-	£130	=	£519
£550	-	£72	=	£478

5 Complete the table. Show your workings.

Question	Estimated answer	Accurate answer
$3,970 \text{ km} - 1,850 \text{ km}$	$2,000 \text{ km}$	$2,120 \text{ km}$
$7,076 - 852$	$6,000$	$6,224$
$7,076 - 652$	$6,000$	$6,424$
$1,994 \text{ ml} + 1,994 \text{ ml}$	$4,000 \text{ ml}$	$3,988 \text{ ml}$

6 Whitney and Dexter are estimating the answer to  $2,706 - 1,394$

Whitney's estimate is  $3,000 - 1,000 = 2,000$

Dexter's estimate is  $2,700 - 1,400 = 1,300$

Whose estimate is more accurate? Why?

Dexter's because he has rounded to the nearest  
100

7 A forest has 2,638 trees.



1,172 more trees are planted.

a) Use rounding to estimate the number of trees in the forest now.

$3,800$

b) Work out the actual number of trees in the forest.

$3,810$

c) How accurate was your estimate?



1 Circle the subtractions that can be used to check the addition  $271 + 516 = 787$

$787 - 271$        $516 - 271$        $271 - 787$        $787 - 516$

2 Circle the additions that can be used to check the subtraction  $2,364 - 1,202 = 1,162$

$2,364 + 1,202$        $1,162 + 1,202$        $2,364 + 1,162$        $1,202 + 1,162$

3 Use an inverse operation to check these calculations.

a)

		H	T	O	
		3	7	1	
	+	4	6	5	
		8	3	6	

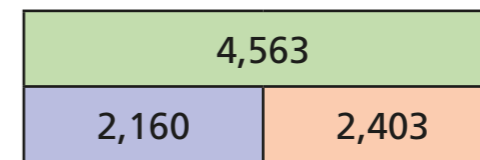

b)

		H	T	O	
		5	6	7	
	-	1	5	2	
		4	1	5	


c)

		Th	H	T	O	
		2	4	1	1	
	-	1	3	0	6	
		1	1	0	5	


4 Complete the fact family for the bar model.



+  =

+  =

-  =

-  =

5 Teddy is working out  $5,671 + 325$

		Th	H	T	O	
		5	6	7	1	
	+	3	2	5		
		8	9	2	1	


Teddy checks his calculation using the same addition.

Is this a good idea? What mistake has Teddy made?

What addition should he do? Check Teddy's calculation.



6 Match the inverse calculations.

## Gold

$$623 + 1,240 = 1,863$$

$$2,483 - 623 = 1,860$$

$$1,860 + 1,240 = 3,100$$

$$2,483 + 617 = 3,100$$

$$1,860 + 623 = 2,483$$

$$3,100 - 1,860 = 1,240$$

$$3,100 - 2,483 = 617$$

$$617 + 1,866 = 2,483$$

$$2,483 - 617 = 1,866$$

$$1,863 - 1,240 = 623$$

7 Complete the calculations.

Use inverse operations to check your answers.

a)  $372 + 405 =$


b)  $1,372 + 450 =$


c)  $6,572 - 2,320 =$


d)  $6,004 - 729 =$


## Checking strategies

- 1 Circle the subtractions that can be used to check the addition  $271 + 516 = 787$

$787 - 271$

$516 - 271$

$271 - 787$

$787 - 516$

- 2 Circle the additions that can be used to check the subtraction  $2,364 - 1,202 = 1,162$

$2,364 + 1,202$

$1,162 + 1,202$

$2,364 + 1,162$

$1,202 + 1,162$

- 3 Use an inverse operation to check these calculations.

a)

	H	T	O
	3	7	1
+	4	6	5
	8	3	6

<del>8</del>	3	6	
-	3	7	1
	4	6	5

b)

	H	T	O
	5	6	7
-	1	5	2
	4	1	5

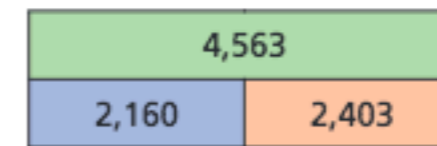
4	1	5	
+	1	5	2
	5	6	7

c)

	Th	H	T	O
	2	4	1	1
-	1	3	0	6
	1	1	0	5

	1	1	0	5
+	1	3	0	6
	2	4	1	1

- 4 Complete the fact family for the bar model.



$2,160 + 2,403 = 4,563$

$2,403 + 2,160 = 4,563$

$4,563 - 2,403 = 2,160$

$4,563 - 2,160 = 2,403$

- 5 Teddy is working out  $5,671 + 325$

	Th	H	T	O
	5	6	7	1
+	3	2	5	
	8	9	2	1

	5	6	7	1
+	3	2	5	
	5	9	9	6

Teddy checks his calculation using the same addition.

Is this a good idea? What mistake has Teddy made?

What addition should he do? Check Teddy's calculation.







## Round to estimate and approximate

- 1** Rosie is working out  $2,937 + 1,870$   
Rosie rounds each number to the nearest 1,000 to estimate the answer.

Complete the sentences.

2,937 rounded to the nearest 1,000 is

1,870 rounded to the nearest 1,000 is

Rosie's estimate for the answer is

$$\boxed{\phantom{000}} + \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

Complete the column addition to work out the actual answer.

		2	9	3	7
	+	1	8	7	0

The actual answer is

- 2** Round each number to the nearest 10,000 to estimate the answer to the calculations.

a)  $12,063 + 29,580$   +  =

b)  $47,640 - 9,485$   -  =

- 3** Annie works out  $7,320 + 912$



The answer is 16,440

Use approximations to show that Annie is incorrect.

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- 4** Complete the calculations.

Use approximations to check your answers.

a)  $3,845 \text{ km} + 7,006 \text{ km} =$

b)  $873 + 9,618 =$

c)  $79,382 - 8,716 =$

d)  $£12,005 + £3,978 - £6,172 =$

## Round to estimate and approximate

- 1** Rosie is working out  $2,937 + 1,870$   
Rosie rounds each number to the nearest 1,000 to estimate the answer.

Complete the sentences.

2,937 rounded to the nearest 1,000 is

1,870 rounded to the nearest 1,000 is

Rosie's estimate for the answer is

$$\boxed{3,000} + \boxed{2,000} = \boxed{5,000}$$

Complete the column addition to work out the actual answer.

	2	9	3	7	
+	1	8	7	0	
	4	8	0	7	

The actual answer is

- 2** Round each number to the nearest 10,000 to estimate the answer to the calculations.

a)  $12,063 + 29,580$   +  =

b)  $47,640 - 9,485$   -  =

- 3** Annie works out  $7,320 + 912$



The answer is 16,440

Use approximations to show that Annie is incorrect.

$$\underline{7,000 + 1,000 = 8,000}$$

*Annie's answer is too big.*

- 4** Complete the calculations.

Use approximations to check your answers.

a)  $3,845 \text{ km} + 7,006 \text{ km} = \boxed{10,851 \text{ km}}$

b)  $873 + 9,618 = \boxed{10,491}$

c)  $79,382 - 8,716 = \boxed{70,666}$

d)  $£12,005 + £3,978 - £6,172 = \boxed{£9,811}$