

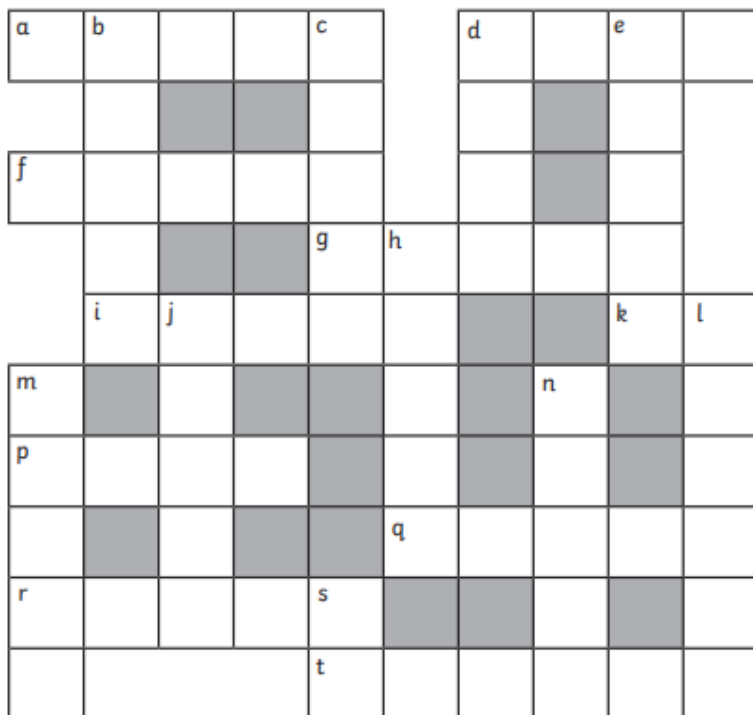
Autumn 1 -Week 4

Addition and Subtraction



Extension task

Crossnumber Addition and Subtraction



Across

- a) $29\,364 + 26\,667$
- d) $80\,126 - 73\,383$
- f) $72\,305 - 25\,053$
- g) $36\,098 + 9\,618$
- i) $65\,801 + 30\,251$
- k) $46\,209 - 46\,174$
- p) $40\,002 - 34\,259$
- q) $27\,891 + 2\,971$
- r) $65\,098 + 25\,153$
- t) $78\,602 - 40\,173$

Down

- b) $41\,243 + 24\,466$
- c) $85\,625 - 75\,380$
- d) $54\,056 - 47\,959$
- e) $34\,283 + 13\,580$
- h) $34\,076 + 18\,607$
- j) $80\,156 - 15\,674$
- l) Double $25\,012$
- m) $59\,821 + 6\,172$
- n) $70\,695 - 2\,873$
- s) $30\,007 - 29\,994$

27/9/21

Aim

LO: To add whole numbers with more than 4 digits (column method)

1) $400 + 540 =$

2) $400 + 546 =$

3) $160 + 327 =$

4) $143 + 27 =$

What are three top tips to remember when adding?
Write on whiteboards

WARM UP TASK!

$$1) 400 + 540 = 940$$

$$2) 400 + 546 = 946$$

$$3) 160 + 327 = 487$$

$$4) 143 + 27 = 170$$



altogether

how many

total

What knowledge do we have
already about addition?

increase

join

plus

combined

sum

Crucial vocabulary:

place value

columns

exchange

calculation symbol

inverse

equation

integer

addition

Crucial vocabulary:

place value

columns

exchange

calculation symbol

inverse

equation

integer

addition

Dexter scores 12,304 points in a game.
Rosie scores 1,263 points.



How much do they score altogether?

Dexter scores 12,304

Rosie scores 1,263

TTh	Th	H	T	O
	 		  	   
		 	     	  
1	3	5	6	7

TTh	Th	H	T	O
1	2	3	0	4
	1	2	6	3
1	3	5	6	7

Mo scores 12,304

Eva scores 1,268

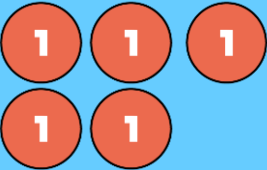
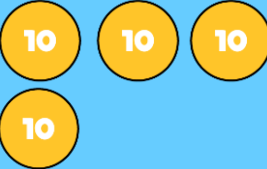
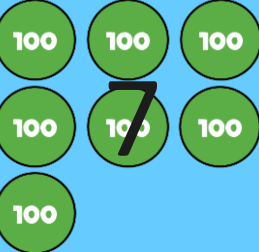
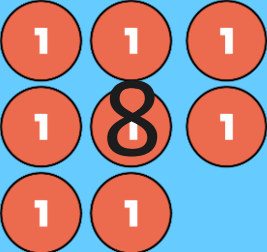
TTh	Th	H	T	O
10,000	1,000 1,000	100 100 100		1 1 1 1
	1,000	100 100	10 10 10 10 10 10	1 1 1 1 1 1 1 1
1	3	5	7	122

TTh	Th	H	T	O
1	2	3	0	4
	1	2	6	8
1	3	5	7	<u>122</u>

1

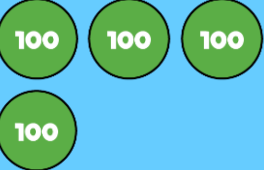
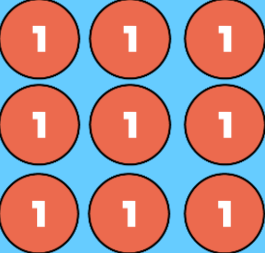
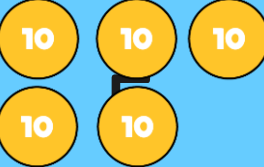


	H	T	O
			5
+	1	4	
	7	4	8

Hundreds	Tens	Ones
		
		
		

	H	T	O
	4		9
+		2	
		5	2

1

Hundreds	Tens	Ones
		
		
		



$$935,079 + 679,708$$

Hexagons and Squares- mixed pairs sheet

- 1) Choose two numbers and add them!
- 2) Once you have done three sums check with a calculator. Any wrong answers redo in red!

Triangles- Mrs Lund-addition

Octagons - Select two numbers to add.
Line up the columns!

47,854	72,345	56,789	94,533	43,445	21,245
686,543	34,256	76,544	4,5967	88,644	34,678
56073	45,567	67897	3,332	34,332	28,309
792655	226679	56,907	56,480	33546	214,576
181,589	549255	32,322	87645	467,876	126,211
15687	177,654	16,432	986,875	246,765	63377

Maths meeting



Tues 28.9.21

- L.O: To solve missing numbers in addition calculations.

Do now-on whiteboards!

$$9,035,039 + 79,786$$

$$£35,039 + £7.86$$

$$9,035,039 + 79,786$$

$$£35.039 + £7.86$$

altogether

how many

total

What knowledge do we have
already about addition?

increase

join

plus

combined

sum

Crucial vocabulary:

- Place value
 - Column
 - Thousands
- Tens of thousands
 - Hundreds
 - Tens
 - Ones
- Hundreds of thousands
 - Calculation symbol
 - inverse

$$68.58 + 357.073$$

Will you have to exchange? How do you know which columns will be affected?

Does it matter that the two numbers don't have the same amount of digits?

Which number goes on top in the calculation? Does it affect the answer?

Missing Numbers

- Calculate the missing number using formal methods.

$$\begin{array}{r} \textcolor{violet}{4}57 \\ \hline + 28\textcolor{violet}{6} \\ \hline 7\textcolor{violet}{4}3 \\ \hline \end{array} \quad \begin{array}{r} 7\textcolor{violet}{4}3 \\ \hline - \textcolor{violet}{2}85 \\ \hline 45\textcolor{violet}{8} \\ \hline \end{array} \quad \begin{array}{r} 6\textcolor{violet}{7}1 \\ \hline - \textcolor{violet}{3}74 \\ \hline 297 \\ \hline \end{array}$$

Write some of your own calculations with missing numbers for a partner.

Show
Answers

Hide
Answers

Print....

Write the three missing digits to make this **addition** correct.

$$\begin{array}{r} 15\Box \\ + 4\Box4 \\ \hline \Box15 \end{array}$$

I know that I am right
because...

If... then...

5 2 3 8 4 1

I know that I am right
because...

$$\begin{array}{r} \\ + \\ \hline 3 8 3 \end{array}$$

If... then...

Octagons

3 5 4 3 0 7

I know that I am right
because...

$$\begin{array}{r} \square \square \square \\ + \square \square \square \\ \hline 1 \ 1 \ 3 \ 8 \end{array}$$

If... then...

7 4 9 7 5 5

I know that I am right
because...

$$\begin{array}{r} \square \square \square \\ + \square \square \square \\ \hline 1504 \end{array}$$

If... then...

7 7 9 7 3 3

I know that I am right
because...

$$\begin{array}{r} \square \square \square \\ + \square \square \square \\ \hline 1 \ 5 \ 3 \ 0 \end{array}$$

If... then...

Over to you...

Squares- Mrs Lund
(some out)

1.

$$\begin{array}{r} 1 \square 59 \\ + \quad 488 \\ \hline 1747 \end{array}$$

2.

$$\begin{array}{r} 7637 \\ + \quad 1\square 9 \\ \hline 7776 \end{array}$$

3.

$$\begin{array}{r} 943\square \\ + \quad \square 77 \\ \hline 10115 \end{array}$$

4.

$$\begin{array}{r} 55\square 5 \\ + \quad \square 27 \\ \hline 6182 \end{array}$$

5.

$$\begin{array}{r} 327\square \\ + \quad 8\square 8 \\ \hline 4175 \end{array}$$

6.

$$\begin{array}{r} 2\square 55 \\ + \quad 46\square \\ \hline 2724 \end{array}$$

7.

$$\begin{array}{r} 95\square 5 \\ + \quad 408 \\ \hline 9923 \end{array}$$

8.

$$\begin{array}{r} 5698 \\ + \quad 14\square \\ \hline 5839 \end{array}$$

9.

$$\begin{array}{r} 4\square 44 \\ + \quad 1\square 5 \\ \hline 4749 \end{array}$$

10.

$$\begin{array}{r} 60\square 6 \\ + \quad \square 21 \\ \hline 6907 \end{array}$$

11.

$$\begin{array}{r} 726\square \\ + \quad 1\square 2 \\ \hline 7436 \end{array}$$

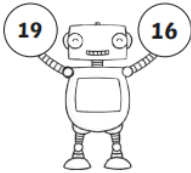
12.

$$\begin{array}{r} 6\square 67 \\ + \quad 746 \\ \hline 6913 \end{array}$$

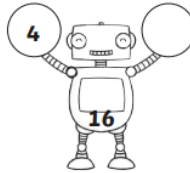
Over to you...

Addition Missing Numbers

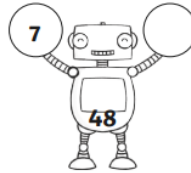
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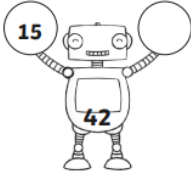
2.



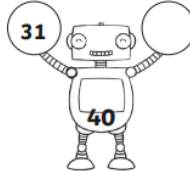
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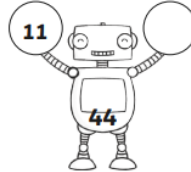
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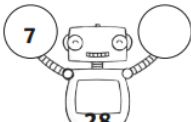
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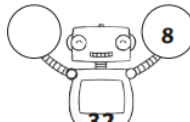
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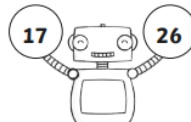
7.



8.



9.



Missing Number 3-Digit Addition

Calculate the missing numbers in these calculations.

$$\begin{array}{r} _38 \\ + _4_7 \\ \hline 128_ \end{array}$$

$$\begin{array}{r} 1_9 \\ + _8_ \\ \hline 524_ \end{array}$$

$$\begin{array}{r} 27_ \\ + 8_8 \\ \hline _ _ 52 \end{array}$$

$$\begin{array}{r} _77 \\ + 6_2 \\ \hline 154_ \end{array}$$

$$\begin{array}{r} 8_6 \\ + _44 \\ \hline 129_ \end{array}$$

$$\begin{array}{r} _89 \\ + 2_1 \\ \hline 45_ \end{array}$$

$$\begin{array}{r} 37_ \\ + 7_3 \\ \hline _ _ 36 \end{array}$$

$$\begin{array}{r} _31 \\ + 96_ \\ \hline 10_2 \end{array}$$

$$\begin{array}{r} 1_2 \\ + _69 \\ \hline 115_ \end{array}$$

$$\begin{array}{r} _88 \\ + 35_ \\ \hline _7_ \end{array}$$

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$$\begin{array}{r} 1 \square 59 \\ + \quad 488 \\ \hline 1747 \end{array}$$

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Calculate the missing digits in these calculations.

1.

$$\begin{array}{r} 5 \ 6 \ \square \ 5 \ 7 \\ + \ \square \ 4 \ \square \ \square \\ \hline 6 \ 3 \ 2 \ 1 \ 8 \end{array}$$

2.

$$\begin{array}{r} 2 \ \square \ 9 \ \square \ 1 \\ + \ 4 \ \square \ 7 \ \square \\ \hline 3 \ 4 \ 4 \ 8 \ 2 \end{array}$$

3.

$$\begin{array}{r} 5 \ 2 \ 0 \ 0 \ \square \\ + \ \square \ \square \ \square \ 2 \\ \hline 5 \ 5 \ 1 \ 4 \ 8 \end{array}$$

4.

$$\begin{array}{r} 1 \ \square \ 2 \ \square \ 6 \\ + \ 6 \ \square \ 2 \ \square \\ \hline 2 \ 4 \ 4 \ 5 \ 4 \end{array}$$

5.

$$\begin{array}{r} 9 \ \square \ \square \ 8 \ \square \\ + \ 5 \ 3 \ \square \ 5 \\ \hline 9 \ 8 \ 6 \ 3 \ 2 \end{array}$$

6.

$$\begin{array}{r} 4 \ 5 \ 1 \ \square \ 3 \\ + \ \square \ \square \ 4 \ \square \\ \hline 5 \ 2 \ 7 \ 7 \ 4 \end{array}$$

7.

$$\begin{array}{r} 1 \ 8 \ \square \ 7 \ 2 \\ + \ \square \ 9 \ \square \ \square \\ \hline 2 \ 2 \ 8 \ 7 \ 2 \end{array}$$

8.

$$\begin{array}{r} 7 \ \square \ 8 \ \square \ \square \\ + \ 5 \ \square \ 1 \ 9 \\ \hline 7 \ 8 \ 7 \ 6 \ 5 \end{array}$$

9.

$$\begin{array}{r} 3 \ 0 \ \square \ 4 \ 9 \\ + \ \square \ 6 \ \square \ \square \\ \hline 3 \ 3 \ 0 \ 2 \ 9 \end{array}$$

10.

$$\begin{array}{r} 8 \ \square \ 0 \ \square \ 8 \\ + \ 3 \ \square \ 3 \ \square \\ \hline \end{array}$$

11.

$$\begin{array}{r} 7 \ 4 \ \square \ \square \ 9 \\ + \ \square \ 8 \ 8 \ \square \\ \hline \end{array}$$

12.

$$\begin{array}{r} 4 \ \square \ 3 \ \square \ 3 \\ + \ 5 \ \square \ 2 \ \square \\ \hline \end{array}$$

*Hexagons/Oct
- Mrs Cooper*

Calculate the missing digits in these calculations.

1.
$$\begin{array}{r} 56\Box \\ + \Box4\Box \\ \hline 63218 \end{array}$$

2.
$$\begin{array}{r} 2\Box9\Box1 \\ + 4\Box7\Box \\ \hline 34482 \end{array}$$

3.
$$\begin{array}{r} 5200\Box \\ + \Box\Box\Box2 \\ \hline 55148 \end{array}$$

4.
$$\begin{array}{r} 1\Box2\Box6 \\ + 6\Box2\Box \\ \hline 24454 \end{array}$$

5.
$$\begin{array}{r} 9\Box\Box8\Box \\ + 53\Box5 \\ \hline 98632 \end{array}$$

6.
$$\begin{array}{r} 451\Box3 \\ + \Box\Box4\Box \\ \hline 52774 \end{array}$$

7.
$$\begin{array}{r} 18\Box72 \\ + \Box9\Box\Box \\ \hline 22872 \end{array}$$

8.
$$\begin{array}{r} 7\Box8\Box\Box \\ + 5\Box19 \\ \hline 78765 \end{array}$$

9.
$$\begin{array}{r} 30\Box49 \\ + \Box6\Box\Box \\ \hline 33029 \end{array}$$

10.
$$\begin{array}{r} 8\Box0\Box8 \\ + 3\Box3\Box \\ \hline \end{array}$$

11.
$$\begin{array}{r} 74\Box\Box9 \\ + \Box88\Box \\ \hline \end{array}$$

12.
$$\begin{array}{r} 4\Box3\Box3 \\ + 5\Box2\Box \\ \hline \end{array}$$

Calculate the missing digits in these calculations.

1.
$$\begin{array}{r} 56\Box57 \\ + \Box4\Box\Box \\ \hline 63218 \end{array}$$

2.
$$\begin{array}{r} 2\Box9\Box1 \\ + 4\Box7\Box \\ \hline 34482 \end{array}$$

3.
$$\begin{array}{r} 5200\Box \\ + \Box\Box\Box2 \\ \hline 55148 \end{array}$$

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$$\begin{array}{r} 1\Box2\Box6 \\ + 6\Box2\Box \\ \hline 24454 \end{array}$$

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$$\begin{array}{r} 9\Box\Box8\Box \\ + 53\Box5 \\ \hline 98632 \end{array}$$

6.
$$\begin{array}{r} 451\Box3 \\ + \Box\Box4\Box \\ \hline 52774 \end{array}$$

7.
$$\begin{array}{r} 18\Box72 \\ + \Box9\Box\Box \\ \hline 22872 \end{array}$$

8.
$$\begin{array}{r} 7\Box8\Box\Box \\ + 5\Box19 \\ \hline 78765 \end{array}$$

9.
$$\begin{array}{r} 30\Box49 \\ + \Box6\Box\Box \\ \hline 33029 \end{array}$$

10.
$$\begin{array}{r} 8\Box0\Box8 \\ + 3\Box3\Box \\ \hline \end{array}$$

11.
$$\begin{array}{r} 74\Box\Box9 \\ + \Box88\Box \\ \hline \end{array}$$

12.
$$\begin{array}{r} 4\Box3\Box3 \\ + 5\Box2\Box \\ \hline \end{array}$$

Question	Answer
1	4, 7, 6, 5, 4
2	4, 1, 9, 2, 1
3	0, 8, 6, 2, 5
4	7, 9, 9, 0, 0
5	5, 1, 1, 5, 3
6	1, 9, 5, 5, 7
7	8, 5, 6, 0, 1
8	3, 1, 3, 6, 9
9	3, 8, 3, 4, 6
10	9, 5, 7, 0, 8
11	6, 9, 5, 5, 6
12	7, 2, 7, 3, 7
13	8, 9, 3, 1, 7
14	6, 3, 3, 3, 9
15	4, 0, 5, 5, 4

Question	Answer
1	7, 7, 7
2	6, 9, 7
3	9, 1, 7
4	5, 9, 6
5	6, 4, 3
6	8, 9, 8
7	5, 8, 7
8	4, 5, 9
9	8, 6, 7

1

7 7 9 7 3 3

$$\begin{array}{r} \square \square \square \\ + \square \square \square \\ \hline 1530 \end{array}$$

5 2 3 8 4 1

$$\begin{array}{r} \square \square \square \\ + \square \square \square \\ \hline 383 \end{array}$$

Extension...

Tuesday

Daily
Maths
Meeting



Tuesday

- Establish whether a number up to 100 is prime and recall prime numbers up to 19.

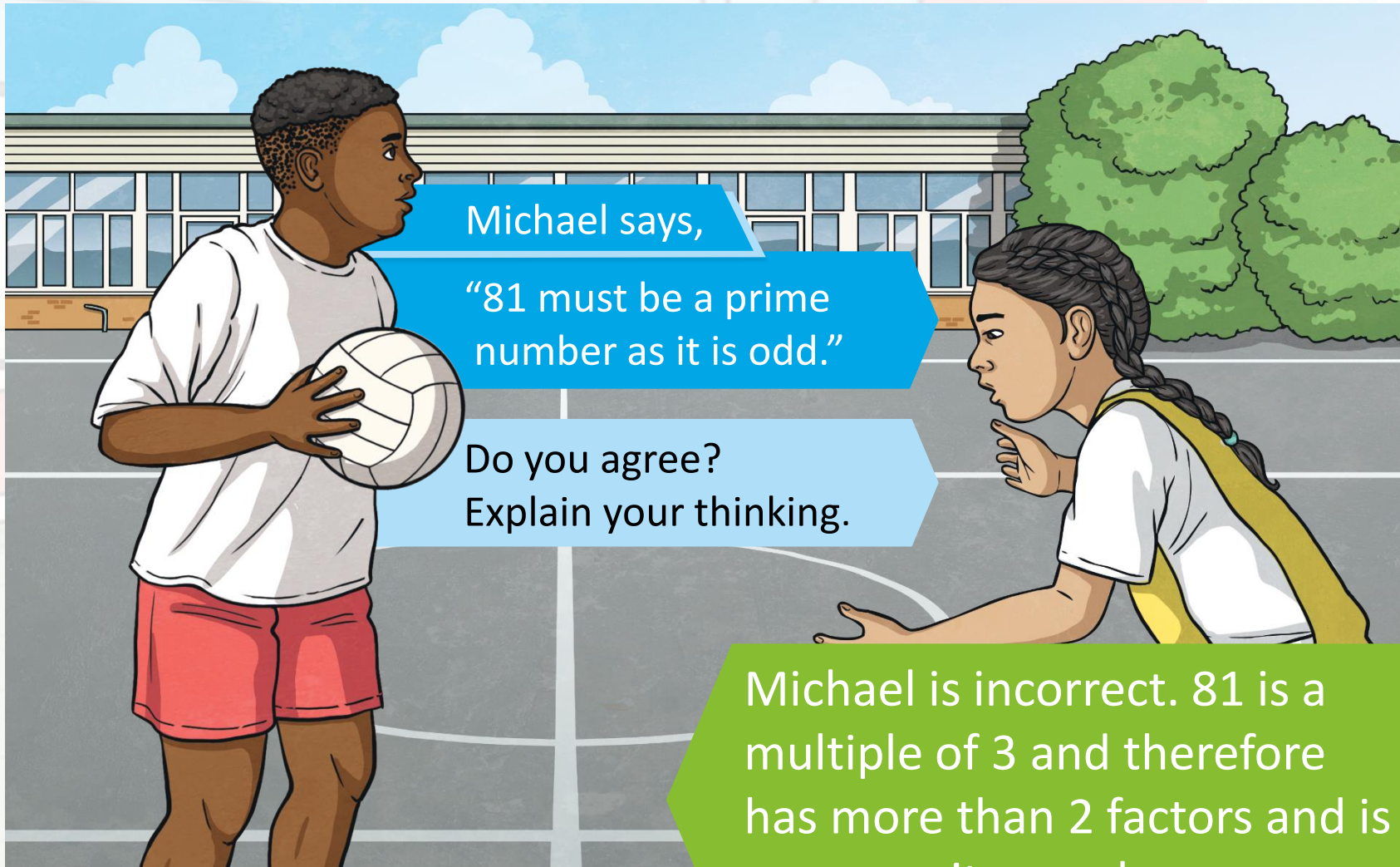




Sort the numbers correctly to show whether they are prime or composite numbers.

2, 7, 12,
17, 21, 29, 32,
41, 67, 82

Prime	Composite (Non-Prime)
2	12
7	21
17	32
29	82
41	
67	



Michael says,
"81 must be a prime
number as it is odd."

Do you agree?
Explain your thinking.

Michael is incorrect. 81 is a
multiple of 3 and therefore
has more than 2 factors and is
a composite number.

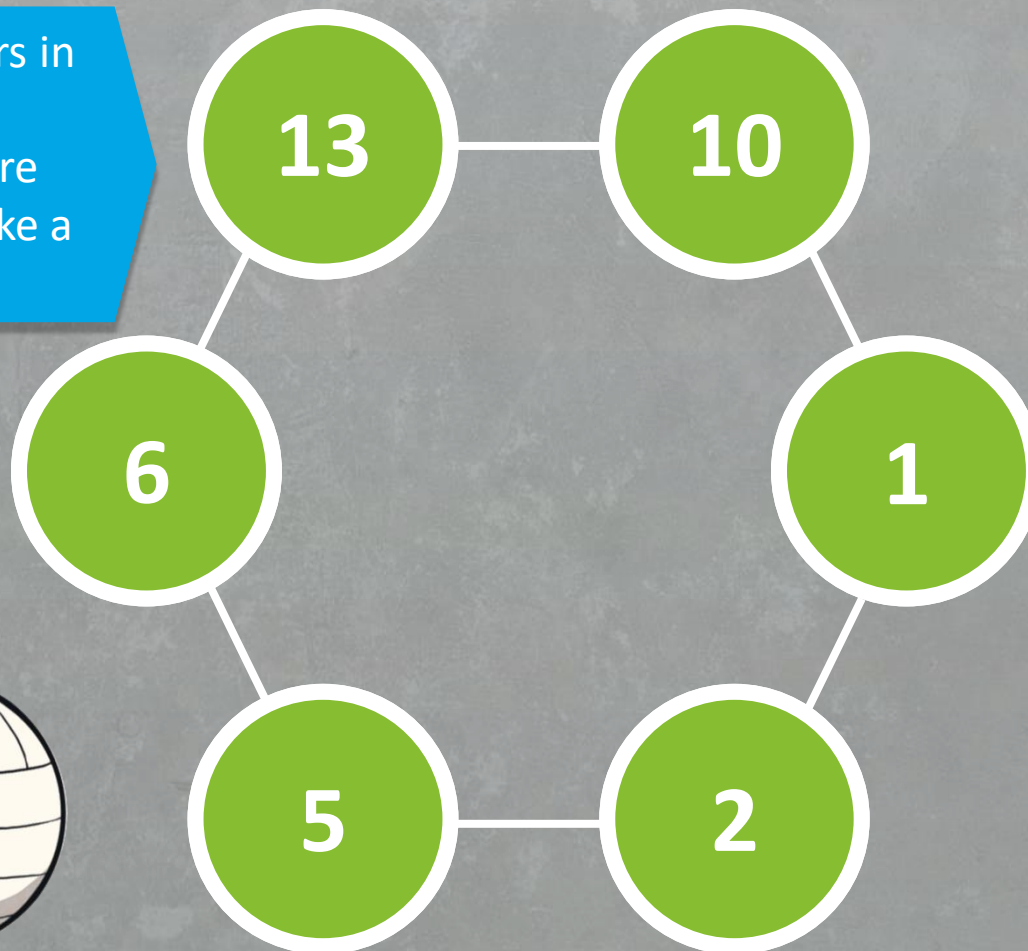
Prime Numbers

Deepest



Can you arrange the numbers in the circles so that each adjoining pair (pairs which are joined together) adds to make a prime number?

10, 2,
5, 1, 6, 13



4

9 1 5 5 4 4

$$\begin{array}{r} \square \square \square \\ + \square \square \square \\ \hline 1108 \end{array}$$

5

7 4 9 7 5 5

$$\begin{array}{r} \square \square \square \\ + \square \square \square \\ \hline 1504 \end{array}$$

29.9.21

Weds

- L.O: To use the written column method for subtraction.

Do now!

- A number rounded to the nearest thousand is 2,500.
- What is the largest number possible that it could be?
- What is the smallest number it could be?

1

$$\begin{array}{rcccc} & 3 & \square & \square & 3 \\ + & \square & 0 & 6 & \square \\ \hline 6 & 5 & 7 & 8 & \end{array}$$

2

$$\begin{array}{r} 9 \square 2 \square \\ + \square 1 \square 4 \\ \hline 12582 \end{array}$$

Subtraction key vocabulary:

subtract

take away

decrease

difference

how many
more

less than

fewer
than

minus

how many
remain

Subtraction key vocabulary:

subtract

take away

decrease

difference

how many
more

less than

fewer
than

minus

how many
remain

- 1.30 Numbers up to 10,000,000 – step 6:6

$$643,801 + 505,370 = 1,149,171$$

$$\begin{array}{r} 6 4 3 , 8 0 1 \\ + 5 0 5 , 3 7 0 \\ \hline 1 , 1 4 9 , 1 7 1 \\ \hline 1 1 \end{array}$$

What is the combined area of France and Spain?

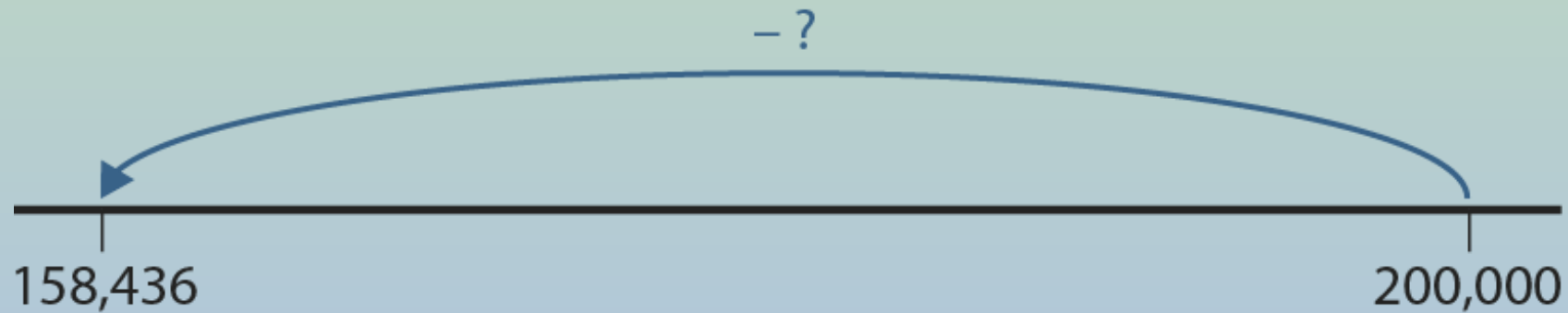
- 1.30 Numbers up to 10,000,000 – step 6:5

$$357,022 - 243,610 = 113,412$$

$$\begin{array}{r} 3 \quad 5 \quad \cancel{7}^6, \quad 0 \quad 2 \quad 2 \\ - \quad 2 \quad 4 \quad 3, \quad 6 \quad 1 \quad 0 \\ \hline 1 \quad 1 \quad 3, \quad 4 \quad 1 \quad 2 \\ \hline \end{array}$$

- 1.30 Numbers up to 10,000,000 – step 6:9

$$200,000 - 158,436$$



$$\begin{array}{r}
 \begin{array}{cccccc}
 \cancel{2}^1 & \cancel{0}^1 & \cancel{0}^9 & \cancel{0}^1 & \cancel{0}^9 & \cancel{0}^1 \\
 - & 1 & 5 & 8, & 4 & 3 & 6 \\
 \hline
 0 & 4 & 1, & 5 & 6 & 4
 \end{array}
 \end{array}$$

- 1.30 Numbers up to 10,000,000 – step 6:10

$$200,000 - 158,436 = 41,564$$

2 0 0 , 0 0 0	$\xrightarrow{-1}$	1 9 9 , 9 9 9
$- 1 5 8 , 4 3 6$	$\xrightarrow{-1}$	$- 1 5 8 , 4 3 5$
		0 4 1 , 5 6 4

Over to you...Triangles

<https://vimeo.com/459320389>

<https://teachers.thenational.academy/lessons/subtracting-two-3-digit-numbers-without-regrouping-60r3cc>

Subtract two 4-digit numbers –
one exchange

White
Rose
Maths

1

Th		H		T		O	
1,000	1,000	100	100	10	10	1	1
1,000	1,000	100	100	10		1	1
1,000						1	

a) Use the place value chart to complete the calculation.

$$5,435 - 3,215 = \square$$

b) Use the place value chart to complete the calculation.

$$5,435 - 3,216 = \square$$

c) Which calculation was easier? Talk about it with a partner.

d) What happens when you don't have enough counters in a column to take away?



3 Complete the calculations.

a)

	H	T	O
	3	2	7
-	1	1	9

c)

	Th	H	T	O
	9	8	4	5
-	6	2	1	6

b)

	Th	H	T	O
	7	6	7	3
-		1	3	4

4 Complete the calculations.

a)

	H	T	O
	3	2	7
-	1	3	2

c)

	Th	H	T	O
	9	8	4	5
-	2	3	6	0



Weds

Independent

Pick two numbers and find the difference
using written sum

Weds

Squares
- out

7658	3468	3322	1397	8433	9778
1865	7890	4587	6348	44506	5752
3477	6776	9555	3478	5786	5609
4564	3545	2276	7660	3498	2867
7886	5987	4280	4698	4576	2903
3489	9084	8670	9856	8876	11332

Pick two numbers and find the difference
using written sum

Weds

Squares
- out

7658	3468	3322	1397	8433	9778
1865	7890	4587	6348	44506	5752
3477	6776	9555	3478	5786	5609
4564	3545	2276	7660	3498	2867
7886	5987	4280	4698	4576	2903
3489	9084	8670	9856	8876	11332

Octagons/ Hex-
Independent

Pick two numbers and find the difference
using written sum

Weds

£376.58	£3468	£33.22	£13.997	£284.33	£9778
£187.26	£78.90	£245.87	£6.38	£44.56	£5677.52
£35,404.77	£78,567.76	£4595.55	£334.78	£357.86	£567.09
£4564	£2335.45	£2276	£8776.60	£33674.98	£2218.67
£78.86	£7659.87	£42.80	£34876.98	£445.76	£43290.8
£34.89	£9084	£876.7	£9856	£88.76	£1132

Pick two numbers and find the difference using written sum

£76.58	£34.68	£33.22	£13.97	£284.33	£97.78
£187.65	£78.90	£245.87	£6.38	£44.506	£57.52
£304.77	£7.76	£95.55	£34.78	£357.86	£567.09
£45.64	£35.45	£22.76	£76.60	£34.98	£28.67
£78.86	£59.87	£42.80	£346.98	£445.76	£290.80
£34.89	£90.84	£86.70	£98.56	£88.76	£11.32

Octagons-Independent

Wednesday

Daily
Maths
Meeting



Maths meeting

Weds



Subtract 90 from 100.

✓10



What is the total of 80 and 15?

✓95



How much less is 12 than 50?

✓38



What is half of 80?

✓40



What is next in the pattern?

24 22 20 18 16 32 30 28 26...

What is the missing number?

$$\underline{13} + 87 = 100$$

$$87 + \underline{13} = 100$$

$$100 - \underline{13} = 87$$

$$100 - 87 = \underline{13}$$

Maths
meeting
Week 3

What is the missing number?

Weds

$$\underline{30} \times 50 = 1500$$

$$50 \times \underline{30} = 1500$$

$$1500 \div \underline{30} = 50$$

$$1500 \div 50 = \underline{30}$$

Say 10 more than the number I point at.

9

6

27

510

98

725

9

23

250

4250

103

34

11

17

145

2150

62

3200

30.9.21

Thurs

- L.O: To use bar modelling to solve addition and subtraction problems.

Do now...

- Tim says "If I round 26.63 to the nearest 10, I do not need to look at the tenths or hundredths." Do you agree? Explain your reasoning.
- Give an example of a six digit number which rounds to the same number when rounded to the nearest 10000 and 100000. Explain why this has happened.

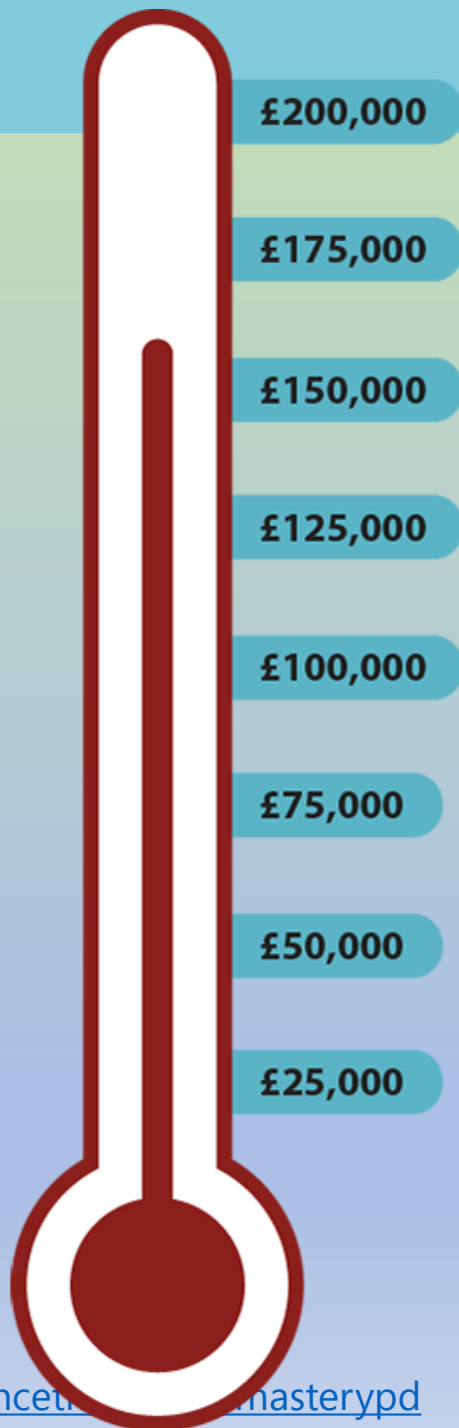
Do now:

- Tim says "If I round 26.63 to the nearest 10, I do not need to look at the tenths or hundredths." Do you agree? Explain your reasoning.
- Give an example of a six digit number which rounds to the same number when rounded to the nearest 10000 and 100000. Explain why this has happened.

Crucial vocabulary:

- Place value
 - Column
 - Thousands
- Tens of thousands
 - Hundreds
 - Tens
 - Ones
- Missing number
- Calculation symbol
 - inverse

- 1.30 Numbers up to 10,000,000 – step 6:9



'A charity aims to raise £200,000. So far it has raised £158,436. How much more does the charity need to raise to reach its target amount?'

What Is Bar Modelling?

- Bar modelling is where pictures or 'bars' are used to represent calculations and word problems.

Why Use Bar Modelling?

Sometimes calculations and word problems are difficult to visualise in your head. Bar models help you to see the maths more clearly.

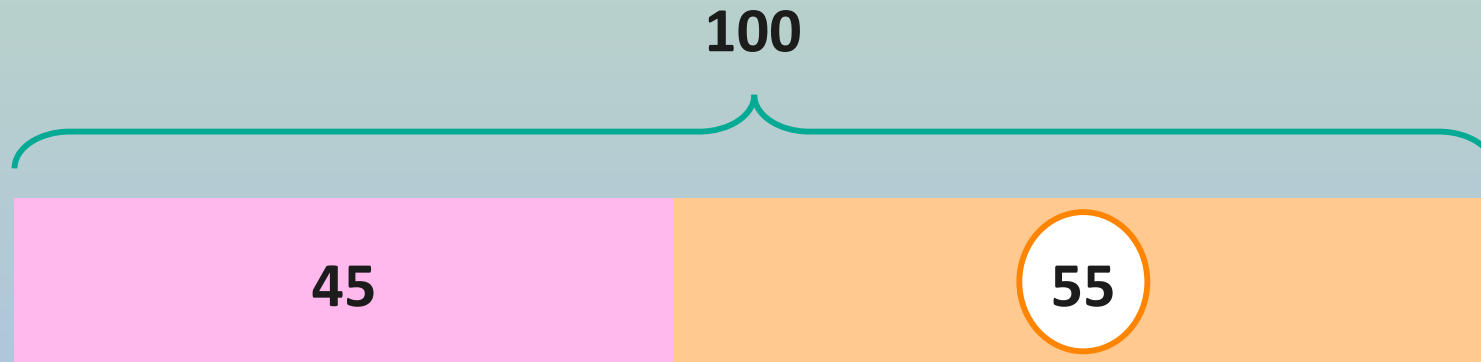
Once you become confident in using bar models, you can use them to help your learning in many different areas of maths.

**So where and how can bar models help you
with addition and subtraction problems?**



Bar Modelling

- Look at this simple bar model.
What addition and subtraction calculations could it represent?

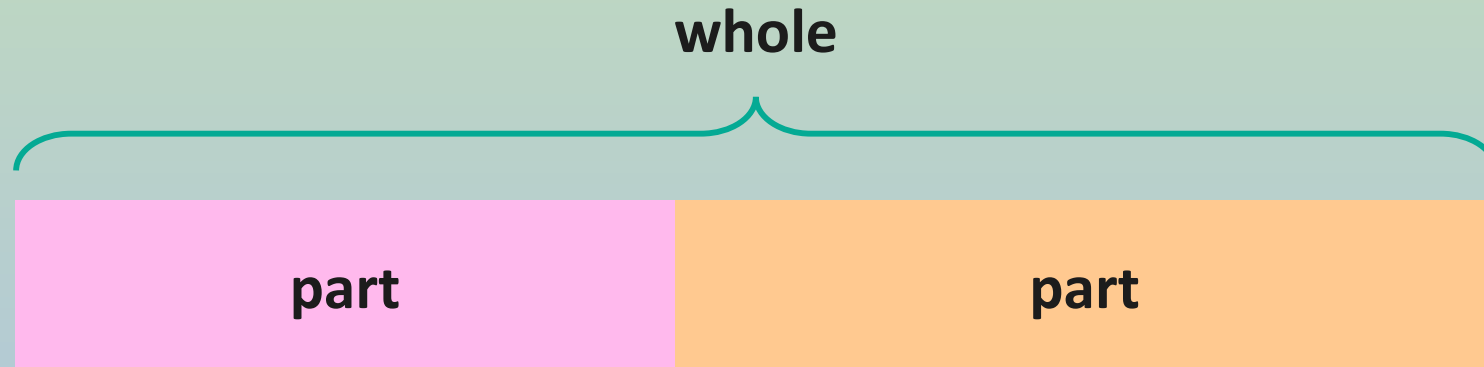


$$45 + ? = 100$$
$$100 - 45 = ?$$

$$45 + 55 = 100$$
$$100 - 45 = 55$$

So what number is missing from the bar model? How do you know?

Bar Modelling



$$\text{part} + \text{part} = \text{whole}$$

$$\text{whole} - \text{part} = \text{part}$$

$$\text{whole} - \text{part} = \text{part}$$

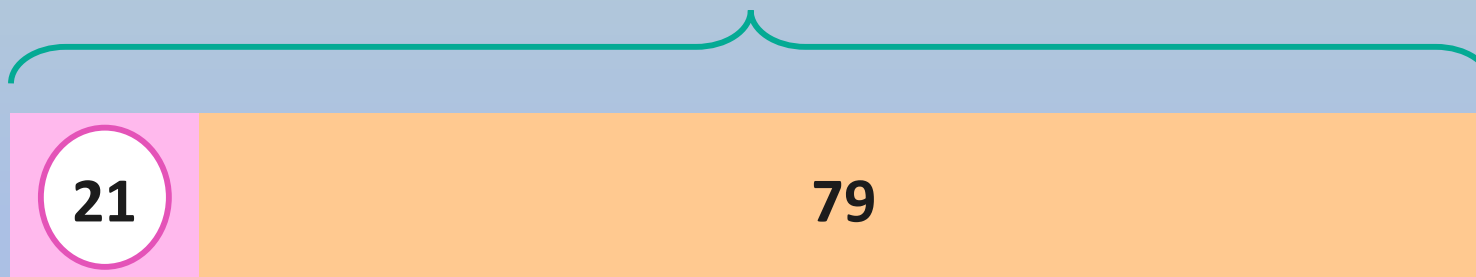


Now it's your turn...



- Could you tell me an addition or subtraction calculation to go with this bar model?

100



$$? + 79 = 100$$

$$100 - 79 = ?$$

$$21 + 79 = 100$$

$$100 - 79 = 21$$



Now it's your turn...



- What about this bar model? What kind of calculation do you need to perform here?

523

126

397

$$126 + 397 = ?$$
$$126 + 397 = 523$$

- 1.30 Numbers up to 10,000,000 – step 6:1

Species of whale	Average mass (kg)
Beluga	1,400
Killer	4,000
Humpback	30,000
Gray	40,000
Blue	140,000



How much heavier is a Gray whale than a humpback whale?



- 1.30 Numbers up to 10,000,000 – step 6:1

Species of whale	Average mass (kg)
Beluga	1,400
Killer	4,000
Humpback	30,000
Gray	40,000
Blue	140,000

40,000	
30,000	10,000

How much heavier is a Gray whale than a humpback whale?

Write a calculation you would use to solve this.

$$30,000 + \boxed{10,000} = 40,000$$

$$40,000 - 30,000 = \boxed{10,000}$$

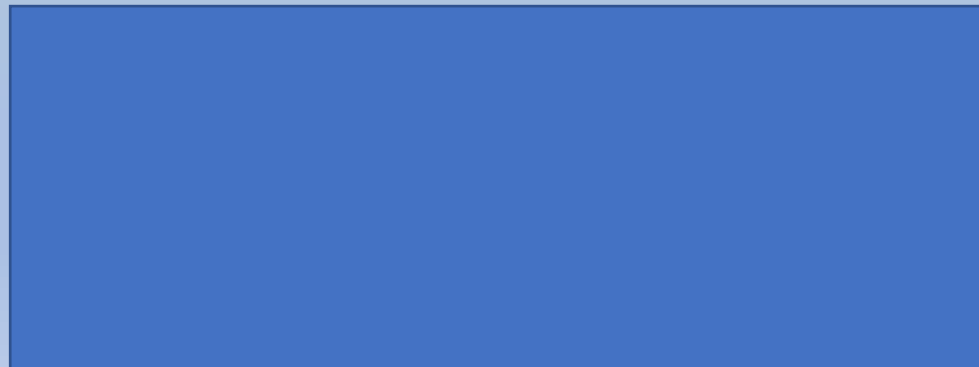
- 1.30 Numbers up to 10,000,000 – step 6:3

European country	Area (km ²)
France	643,801
Spain	505,370
Sweden	450,295
Germany	357,022
United Kingdom	243,610

Source: *The World Factbook* 2018
Washington, DC: Central Intelligence Agency, 2018

How much larger is Germany than the UK?

Write a calculation to solve this.



- 1.30 Numbers up to 10,000,000 – step 6:3

European country	Area (km ²)
France	643,801
Spain	505,370
Sweden	450,295
Germany	357,022
United Kingdom	243,610

Source: *The World Factbook* 2018
Washington, DC: Central Intelligence Agency, 2018

How much larger is Germany than the UK?

Write a calculation to solve this.

357,022	
243,610	?

$$243,610 + \boxed{113,412} = 357,022$$

$$357,022 - 243,610 = \boxed{113,412}$$

Bar Models to Solve Word Problems

- Sunnymore Primary School has 284 pupils.
- 218 of the children have a school lunch and the rest bring a packed lunch.
- How many children bring a packed lunch?

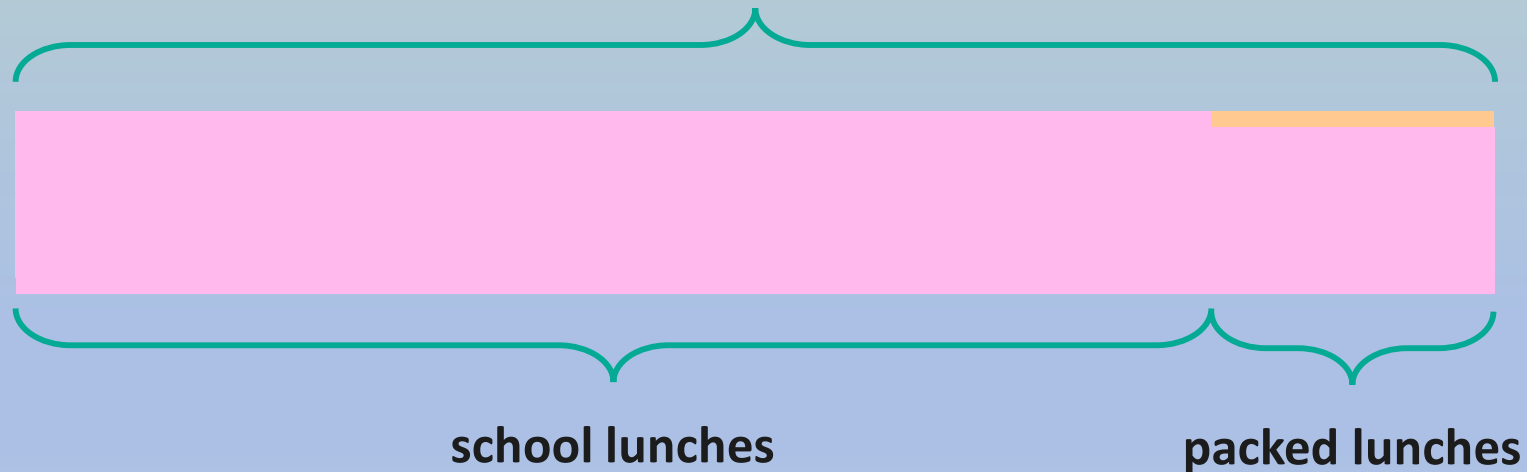


Can you think how a bar model could look for this problem?

Using Bar Models to Solve Word Problems

- Sunnymore Primary School has 284 pupils.
- 218 of the children have a school lunch and the rest bring a packed lunch.
- How many children bring a packed lunch?

284 pupils

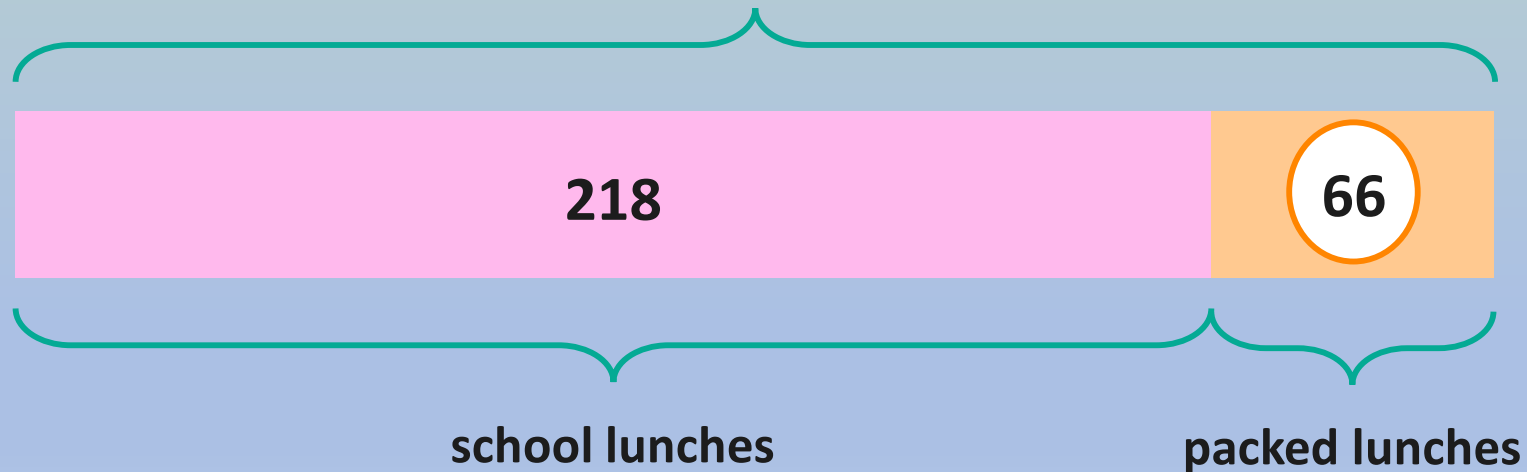


Using Bar Models to Solve Word Problems

- So how many children bring a packed lunch?

- $284 - 218 = 66$

284 pupils



Using Bar Models to Solve Word Problems

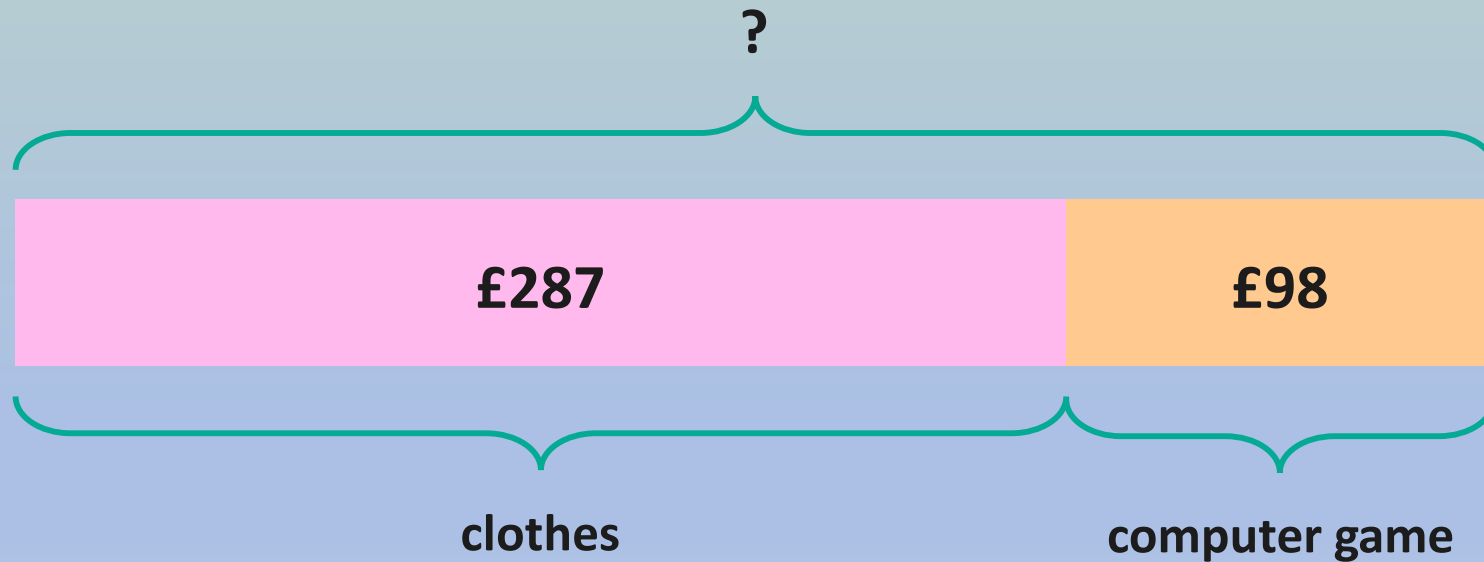
- Grace went on a shopping spree with her birthday money.
- She spent £287 on clothes and £98 on some new computer game.
- How much did she spend in total?



Can you think how a bar model could look for this problem?

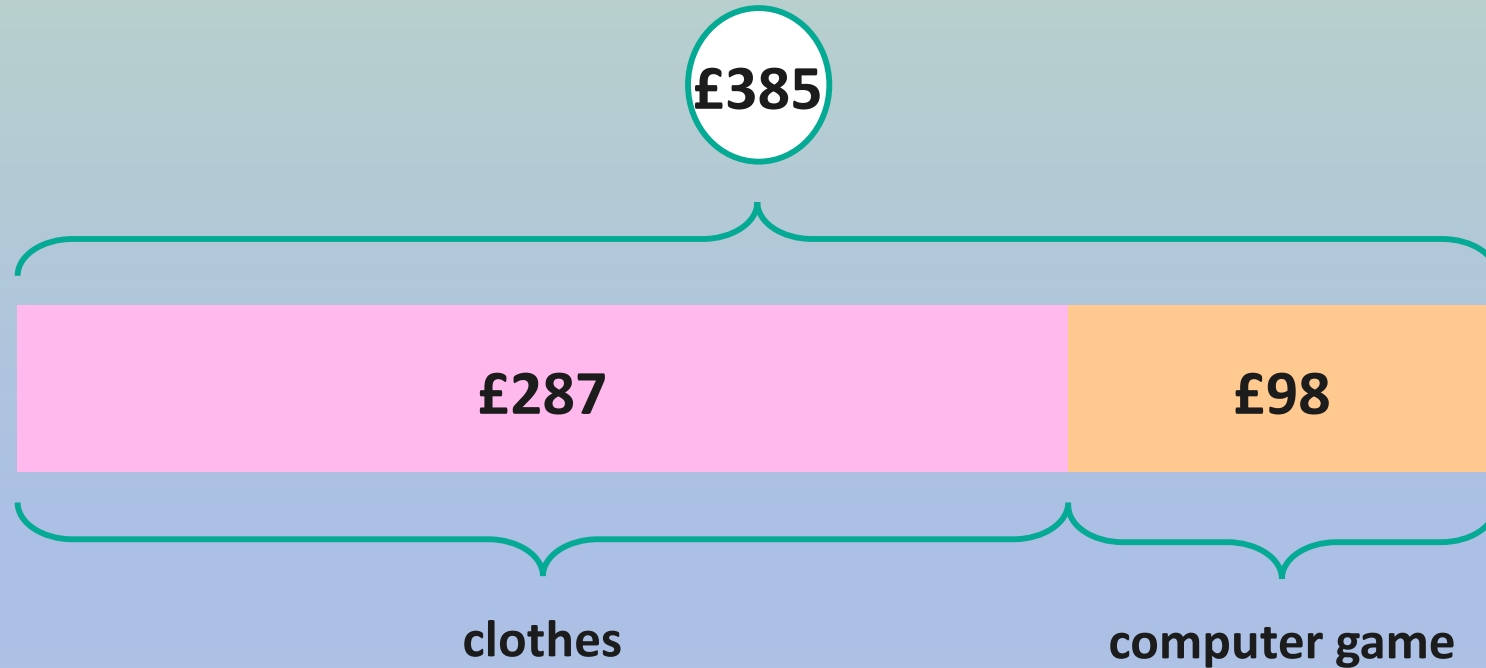
Using Bar Models to Solve Word Problems

- Grace went on a shopping spree with her birthday money.
- She spent £287 on clothes and £98 on some new computer game.
- How much did she spend in total?



Using Bar Models to Solve Word Problems

- So how much did Grace spend in total?
 - $£287 + £98 = £385$



Using Bar Models to Solve Word Problems

- A lorry driver was on a 436 mile journey.
- He stopped after 278 miles for a break.
- How many miles does he have left to travel?



Can you think how a bar model could look for this problem?

Over to you...Squares and Triangles

- Using your bar model template, you are to create a sum to show an addition and subtraction for each of the set of numbers given.

Example:

- 568 whole number

$$\begin{aligned}149 + ? &= 568 \\149 + 419 &= 568 \\568 - ? &= 149 \\568 - 419 &= 149\end{aligned}$$

679

345

236

1245

568



Make your bar model and next to it- write as many equations you can next to it.

Bronze	Silver	Gold
1. $4056 + ? = 8999$ 2. $2175 = ? - 3881$ 3. $7217 - ? = 2276$ 4. $6802 - ? = 4597$ 5. $568 + ? = 4650$ 6. $6534 - ? = 2876$ 7. $5673 = ? + 3215$ 8. $6790 = 4567 + ?$	1. $5567 = ? - 3210$ 2. $4806 - ? = 4579$ 3. $8744 - ? = 459$ 4. $3421 = ? + 324$ 5. $5694 = ? + 349$ 6. $5637 - ? = 393$ 7. $543 + ? = 2897$ 8. $17,577 = ? + 3098$	1. 12,457 and 5400 2. 78,300 and 5000 3. 78,000 and 6,900 4. 72,342 and 5,500 5. 30,543 and 7,654 6. 68,500 and 6,444 7. 48,400 and 5,770 8. 59,876 and 36,542 9. 456,765 and 3656 10. 67,800 and 36,800

Hexagons/Octagons- choose either Bronze or silver.
Draw a bar model

Bronze	Silver	Gold
1. $4056 + ? = 8999$ 2. $2175 = ? - 3881$ 3. $7217 - ? = 2276$ 4. $6802 - ? = 4597$ 5. $568 + ? = 4650$ 6. $6534 - ? = 2876$ 7. $5673 = ? + 3215$ 8. $6790 = 4567 + ?$	1. $5567 = ? - 3210$ 2. $4806 - ? = 4579$ 3. $8744 - ? = 459$ 4. $3421 = ? + 324$ 5. $5694 = ? + 349$ 6. $5637 - ? = 393$ 7. $543 + ? = 2897$ 8. $17,577 = ? + 3098$	1. 12,457 and 5400 2. 78,300 and 5000 3. 78,000 and 6,900 4. 72,342 and 5,500 5. 30,543 and 7,654 6. 68,500 and 6,444 7. 48,400 and 5,770 8. 59,876 and 36,542 9. 456,765 and 3656 10. 67,800 and 36,800

Hexagons/Octagons- choose either Bronze or silver.
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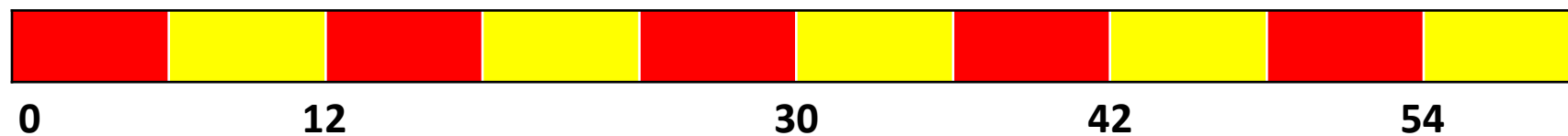
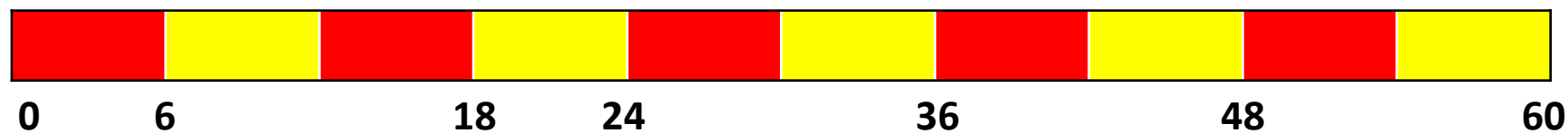
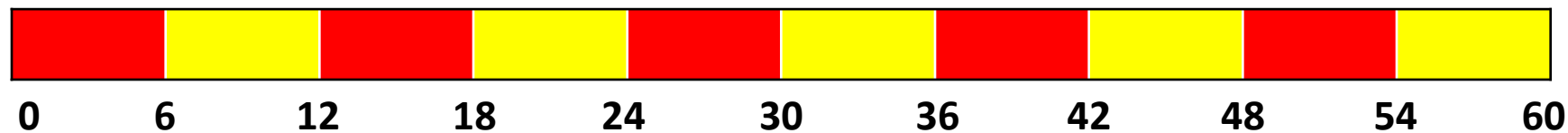
Thursday

Daily
Maths
Meeting



6 times table

Tues



Say 1000 times more than
the number I point at.

9

6

27

510

98

725

9

23

250

4250

103

34

11

17

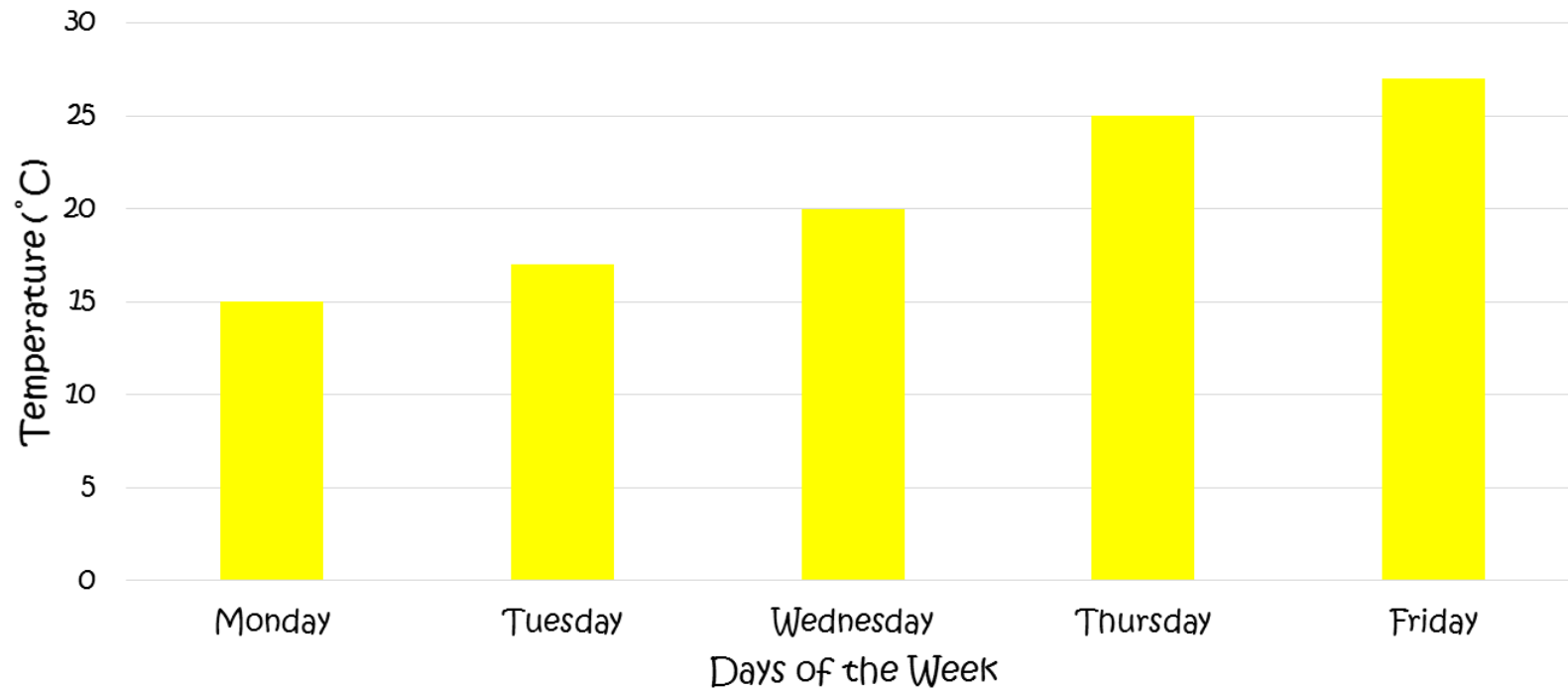
145

2150

62

3200

Weekly Temperature



Which day was the temperature highest?



Which day was the temperature lowest?



What was the temperature on Tuesday?



On Saturday, the temperature was 10° higher than Monday. What was the temperature?

Reasoning Club Week 1: name

Problems in a number grid

6	11	16	21	26	31	36
4	9	14	19	24	29	34
2	7	12	17	22	27	32

This grid is part of an infinite grid which extends in all directions. These shapes are part of that grid. Fill in the missing numbers

These shapes are part of that grid. Fill in the missing numbers

Extra resources/Extension tasks

This table shows the number of people living in various towns in England.

Town	Population
Bedford	82,448
Carlton	48,493
Dover	34,087
Formby	24,478
Telford	166,640

What is the total of the numbers of people living in Formby and in Telford?

What is the **difference** between the numbers of people living in Bedford and in Dover?

Write in the missing number.

$$8.5 + 14.7 = 10.2 +$$

These are some prices in a fish and chip shop.

Fish £2.30	Peas 35p
Sausage £1.80	Curry sauce 40p
Chips (small bag) 60p	Bread roll 30p
Chips (large bag) 90p	Pickled onion 28p

Alfie buys one fish, a large bag of chips and a pickled onion.

How much does he pay?

£

Megan buys a sausage and a bread roll.

Chen buys a small bag of chips and a curry sauce.

How much **more** does Megan pay than Chen?

Write in the missing number.

$$1 + 10 +$$

= 100

Write the missing numbers.

$$150 - \boxed{} = 87$$

$$90 \times \boxed{} = 450$$

Write the two missing digits.

$$\boxed{}\boxed{1} - \boxed{2}\boxed{} = 34$$

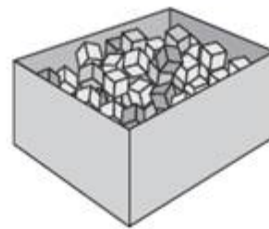
$$\boxed{} = 936 + 285$$

Seb has a box of **120** cubes.

He uses some of the cubes to build a tower.

77 cubes are left over.

How many cubes has he used?



Seb has **77** cubes left over.

He builds two more towers.

One tower uses **18** cubes and the other uses **35** cubes.

How many of his **77** cubes has he got left now?

Nancy is using the inverse operation to solve calculations. She is completing the calculation below:

$$\underline{\hspace{2cm}} - 3291 = 5382$$

She says "I can turn the calculation around to get the correct answer."

She does the following:

$$5382 - 3291 =$$

Is she correct? Why?

Nancy is using the inverse operation to solve calculations. She is completing the calculation below:

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Thurs- 1/10/21

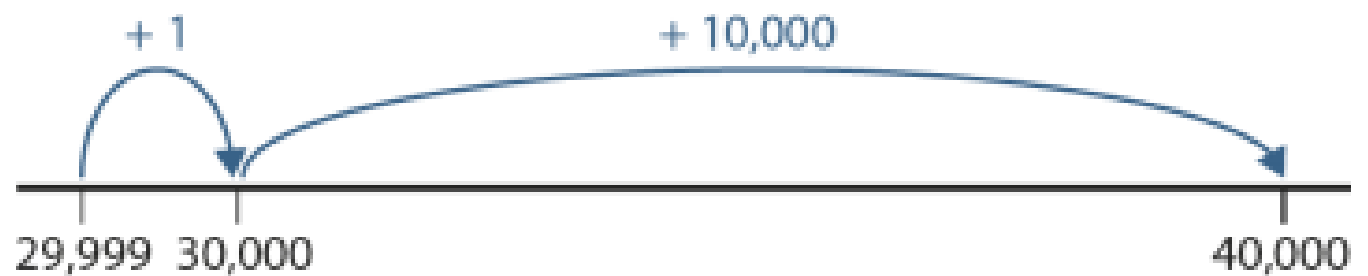
LO : To solve word problems involving addition and subtraction

DO NOW – whiteboards!

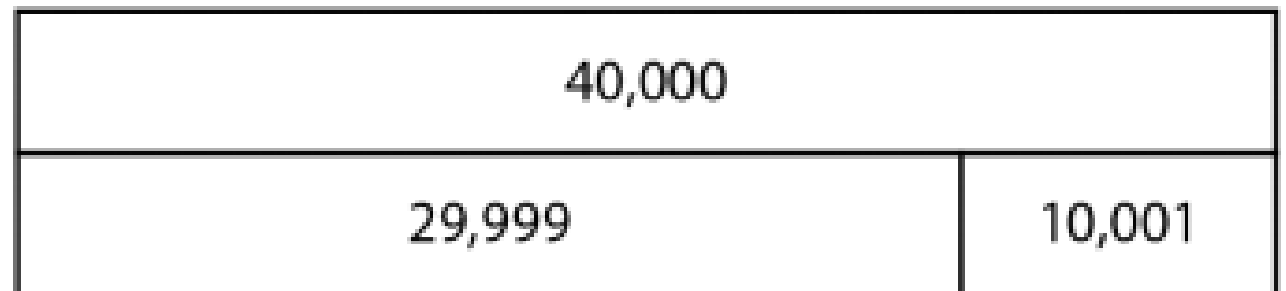
'A new car costs £29,999. How much money is left from £40,000?'

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Number line:

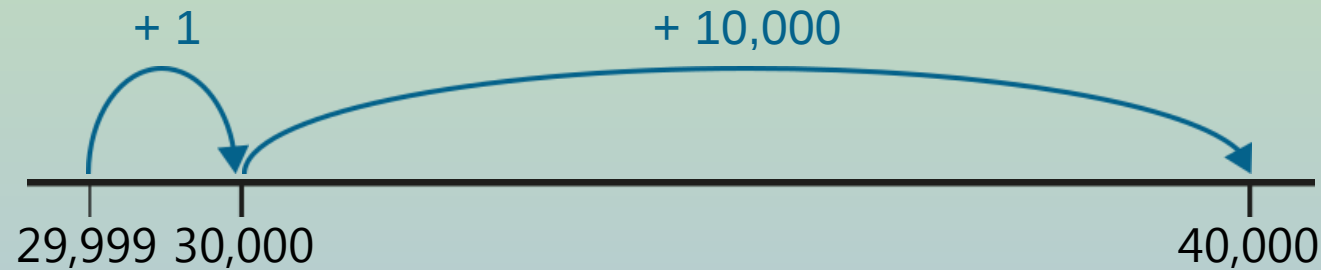


Bar model:



- 1.30 Numbers up to 10,000,000 – step 6:8

Think
about
it!



40,000	
29,999	10,001

Mental or written strategy?

- 1.30 Numbers up to 10,000,000 – step 6:12

Which would be best to do mentally? Written ?

Mental method

Written method

$$308,724 - 10,000$$

$$103,436 + 45,618$$

$$20,000 - 9,999$$

$$43,701 - 34,067$$

$$426 + 784,000 + 3,000,000$$

$$78,921 - 3,000$$

$$9,000,000 - 437,208$$

$$1,070,640 - 65,231$$

Let's think about....

3

A family has £22,658 in the bank.

They spend £3,600 on a holiday.

How much money do they have left?

Talk task...

4

It is 10,553 miles from London to Sydney.

It is 9,929 miles from New York to Sydney.

How much further away is Sydney from London than from New York?

 miles

Squares

8

Teddy and Jack are playing a computer game.

Teddy scores 55,890 points.

Jack scores 36,475 points fewer than Teddy.

a) How many points does Jack score?

b) How many points do they have altogether?

Squares

6

Mr Hall has written these subtractions on the board.

$$45,541 - 25,865$$

$$68,945 - 34,758$$

Rosie's workings

	2	5	8	6	5
–	4	5	5	4	1
	2	0	3	2	4

Whitney's workings

	6	8	9	4	5
–	3	4	7	5	8
	3	4	2	1	3

Explain the mistakes that Rosie and Whitney have made.



Squares

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Explain the mistakes that Rosie and Whitney have made.



Extension....Solving problem sheets

Read the information and make up some questions to answer.

1 Jane made 67 sandwiches for the party. She had wanted to make 100 but she ran out of bread. Luckily Louise brought along 76 sandwiches with her. At the end of the party 48 sandwiches were left over.



2 1200 people watched the football match between the reds and the blues. 500 of them supported the red team. It started to rain at half time and 900 fans were left. Then 6 fans had to leave early to get their train home. 621 blue fans saw their team win at the end of the match.



3 581 children walked into assembly. 293 of them were from the infants. The head teacher sent out 9 children for talking. 27 children from class 4 had to leave before the end as they were going on a trip. At the end of the assembly 254 junior children were left.



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Triangles- Addition and subtraction problems- Guided (Mrs Cooper)

Hexagons- Addition and Subtraction challenge cards

Maths Mastery

Addition and Subtraction Problems Challenge Cards



Addition and Subtraction Problems

Nikita has to solve this problem:
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?
Nikita says it is best to find the total of miles for each week first. Discuss with a partner why this is the case, and then solve the problem.



Addition and Subtraction Problems

Over the weekend, Nikita spends 85 minutes on her project and 45 minutes on her maths homework.
On Monday, she spends 65 minutes on her spelling and grammar homework.
Explain how you would work out how much longer she spends on her homework over the weekend. Can you find more than one method?



Addition and Subtraction Problems

Pavel buys a T-shirt for £4.50, a skirt for £7.99 and a pair of shorts. He pays for the items with a £20 note and gets the following coins as change.



Discuss with a partner your answer and compare methods. Can you find a way to solve this using a diagram?
How much were the shorts?



Extension



- 9 Here are some digit cards.



Ron makes a 4-digit number with the cards.

Eva makes a 4-digit number with the cards.

The difference between their numbers is between 1,000 and 3,000

What numbers could Ron and Eva have made?
