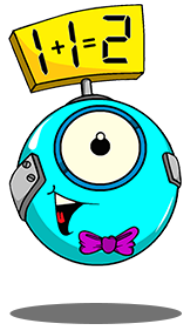
19.01.2021

Maths

We ♥ Maths

Today we we will continue to practise methods of addition! This time we will be crossing the tens barrier.

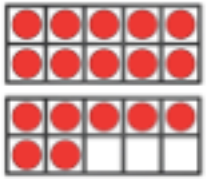
Fluency



Create bar models for other combinations of coins or notes.

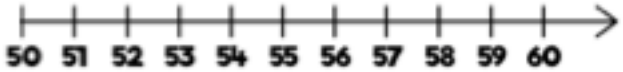
Flashback 4

1) Complete the bar model.



2) $\square + 36 = 100$

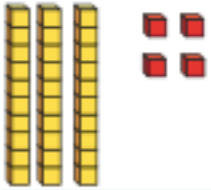
3) $51 + 9 = \square$



4) The Base 10 shows the number 34

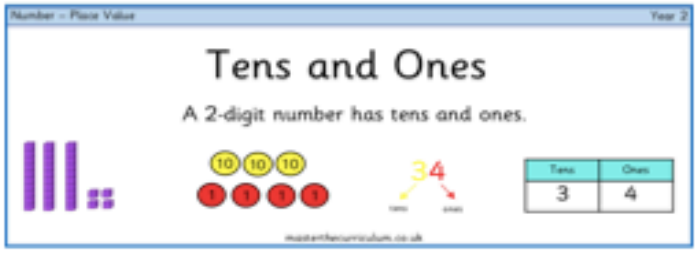
Complete the sentence.

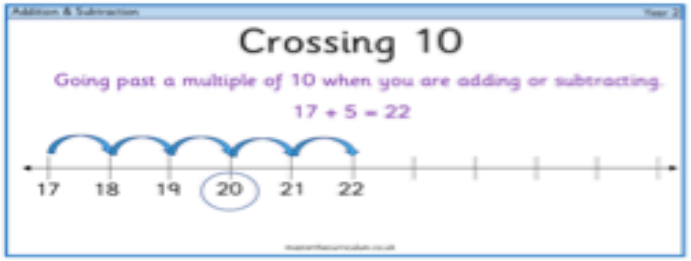
34 has ____ tens and ____ ones.

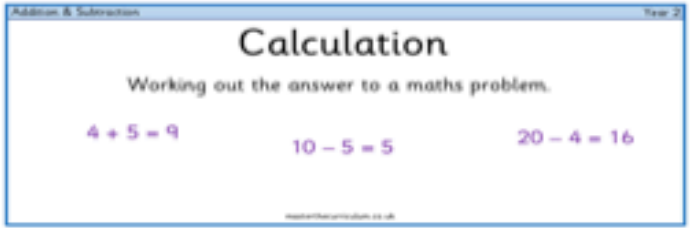


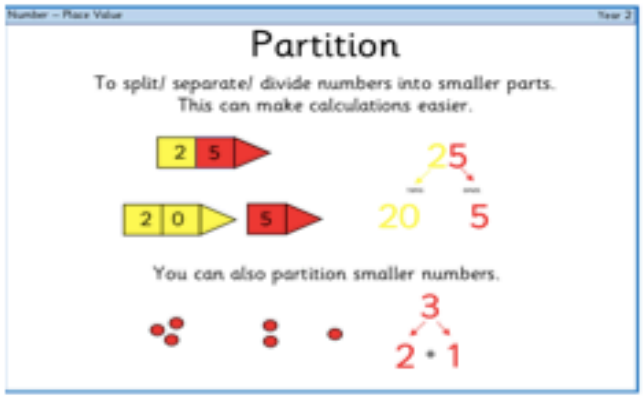
White Rose Maths

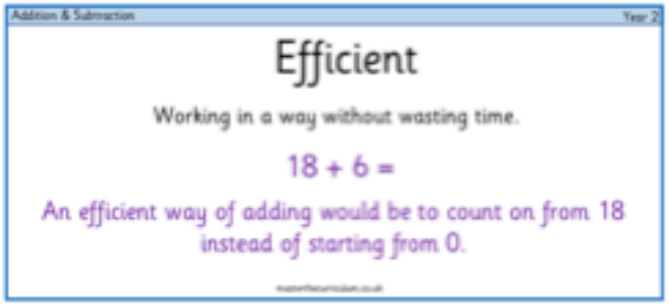
Vocabulary



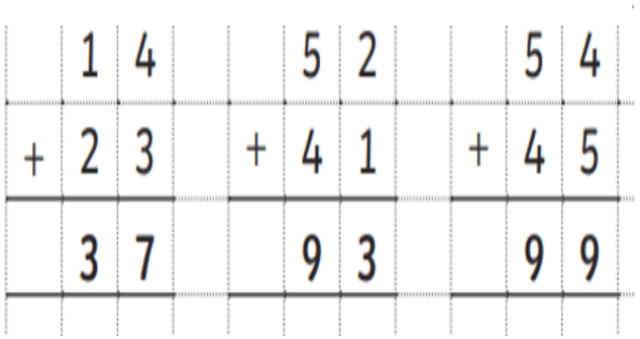








Column / vertical method

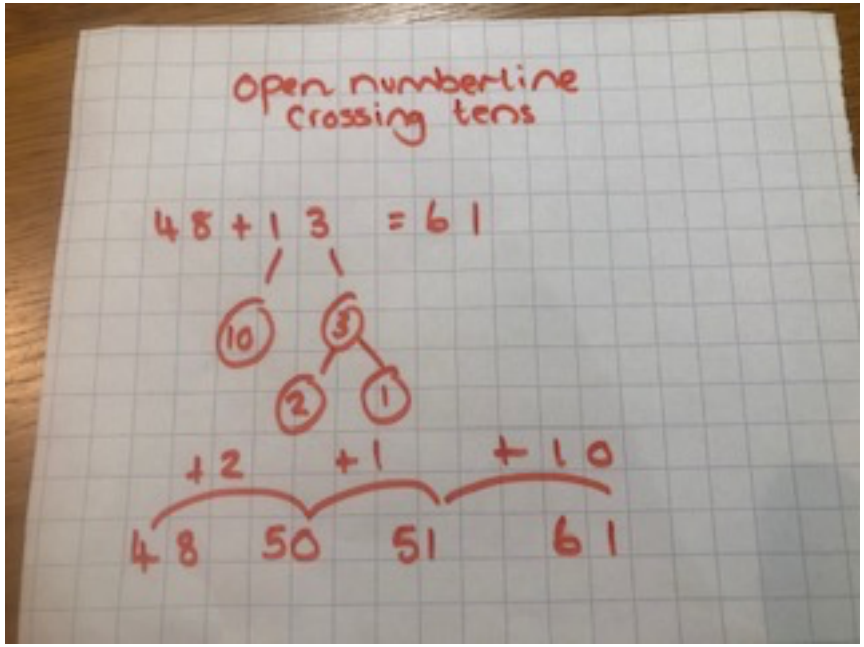


Recap: Crossing tens on a number line

Find the sum of 48 and 13

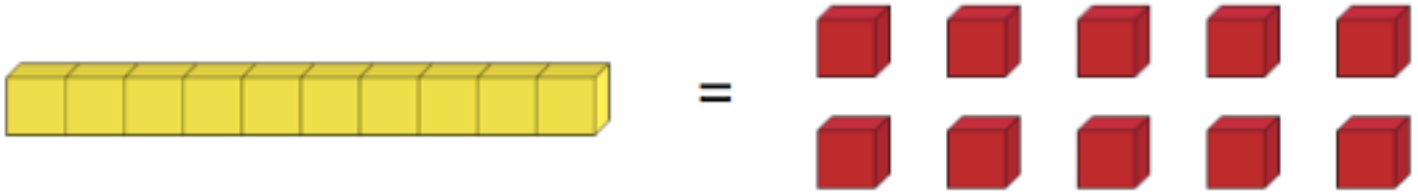
We start with the largest number in our addition, which we place at the start of our number line. Next partition the smaller number into tens and ones. Then jump on along the number line by the ones. You will need to make more than one jump if your ones add up to more than ten. Your first jump should take you to the next number ending in 0 then add on the remaining ones. Finally add on the tens. The number you stop at is the total.

We can add 2 2 digit numbers on a number line.



Recap: Important Information

It is important to remember that:



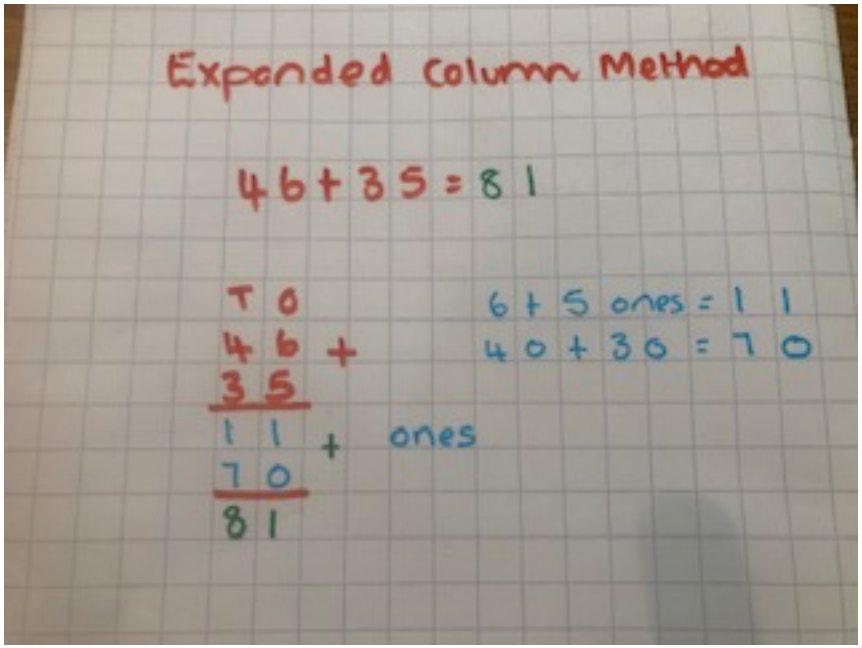
10 ones are the same as **1** ten.

Recap: Expanded Column Method

We can use the **expanded column method** when our ones add up to more than 10.

			4	6	
			3	5	+
			1	1	Ones
			7	0	Tens
			8	1	

6 ones + 5 ones = 11 ones
4 tens + 3 tens = 7 tens (70)
70 + 11 = 81



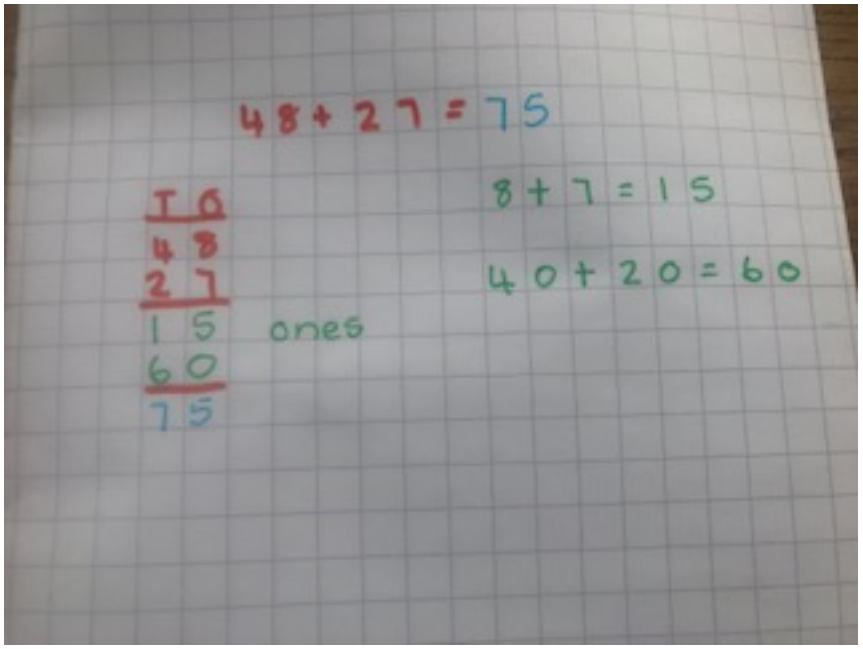
In this method we find the total ones and the total tens which we then add together.

Your Turn

Complete these calculations

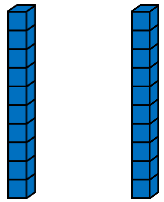
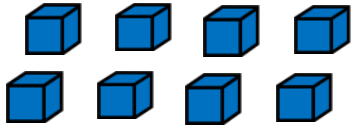
25 + 37 =
19 + 42 =

Show these calculations using the expanded column method. Look at my example to help you.



Recap: Column method with exchange

28 + 13 =

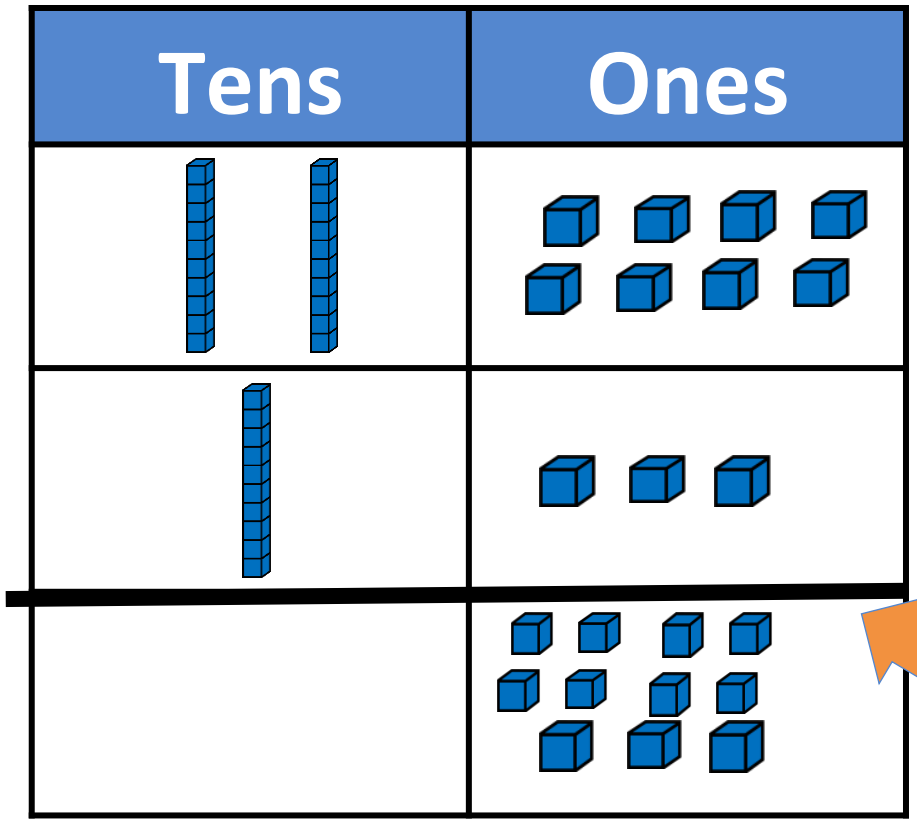
Tens	Ones
	
	

T	O
2	8
+ 1	3

Use a pictorial representation to help you solve this calculation.

Recap: Column method with exchange

28 + 13 =

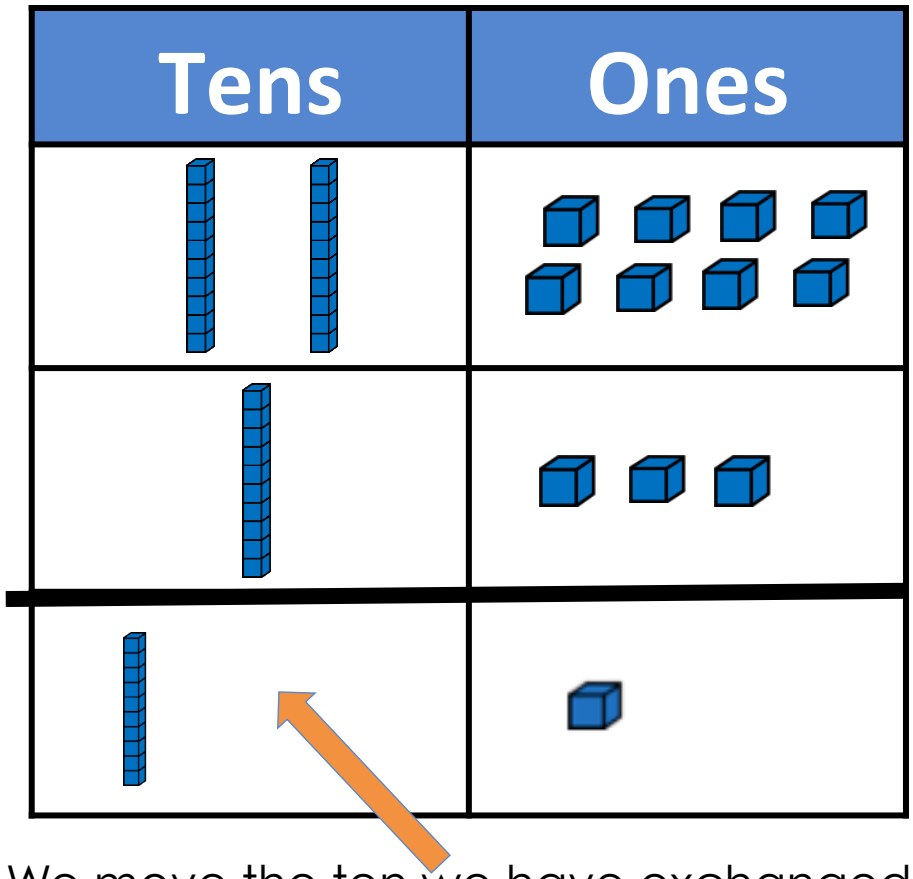


T	O
2	8
+ 1	3

Add up the ones. There are 11 altogether. That's more than 10 so we need to swap 10 ones for 1 ten.

Recap: Column method with exchange

28 + 13 =

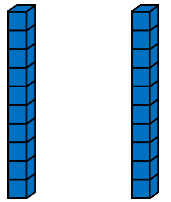
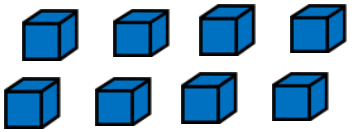
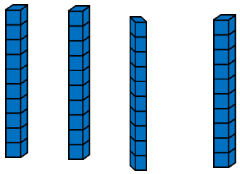


T	O
2	8
+ 1	3
	1
1	

We move the ten we have exchanged for the ones into the tens column. In our written calculation we show the exchanged ten below the tens column.

Recap: Column method with exchange

28 + 13 =

Tens	Ones
	
	
	

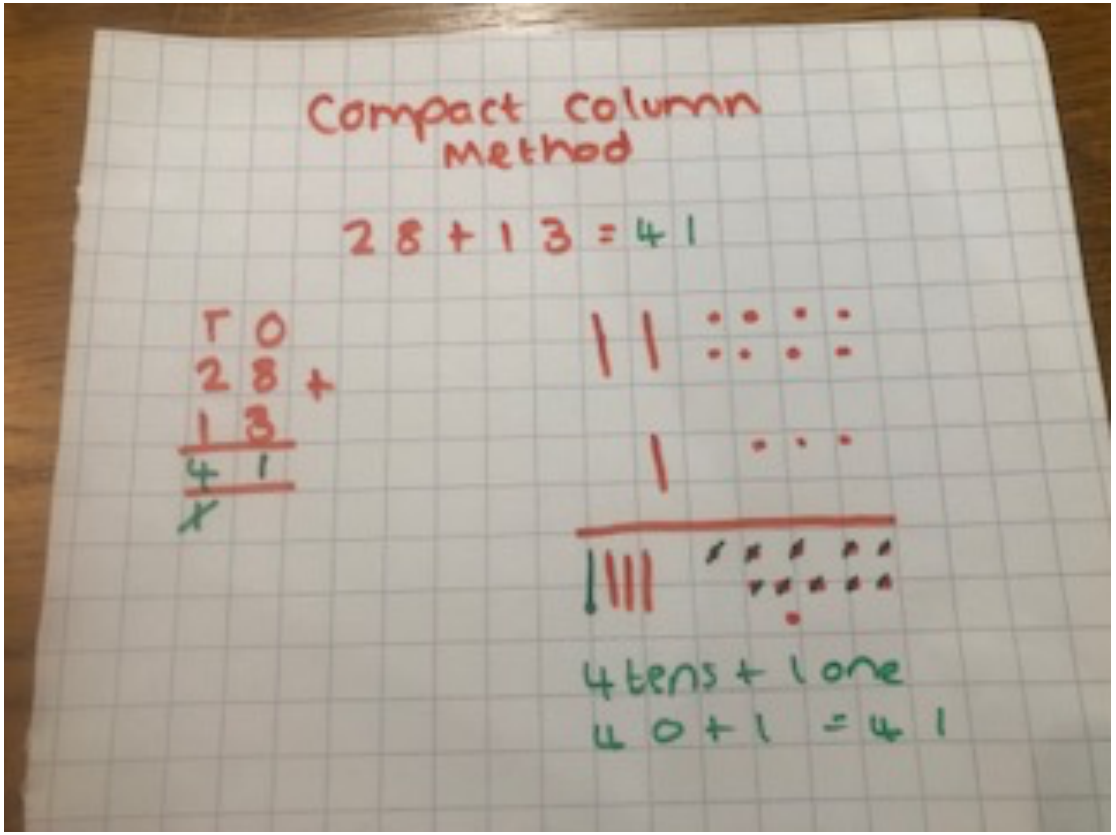
Now add up the tens.

T	O
2	8
+ 1	3
4	1

1

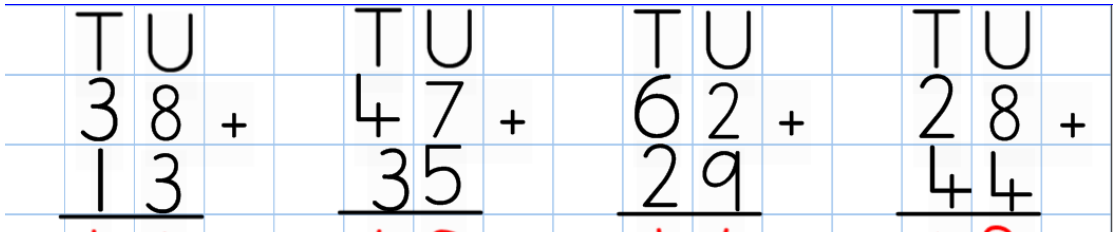
Don't forget this ten! 3 tens + 1 ten = 4 tens.

We call this method the standard written method and it's the method your grown ups will know best.

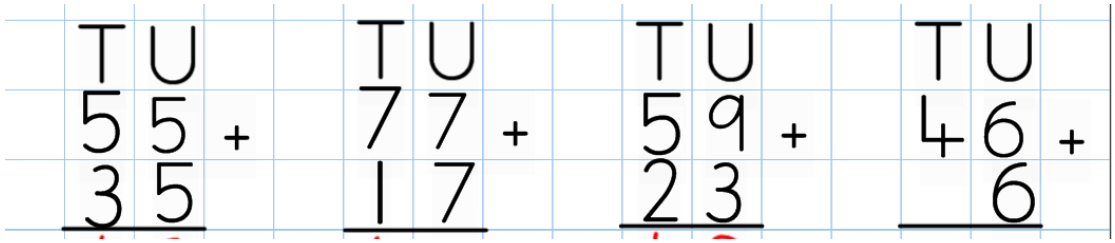


Your Turn

Complete these calculations

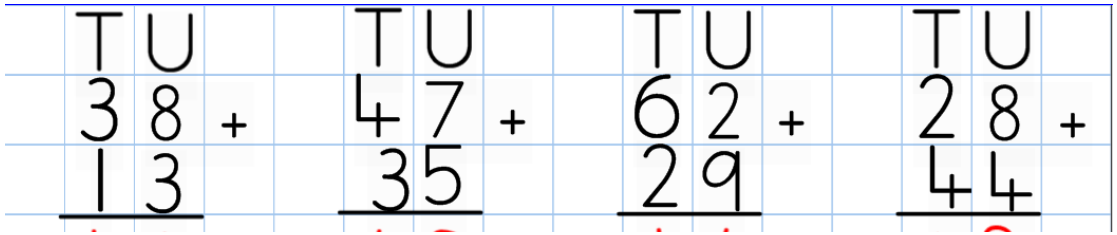


You can choose the expanded or compact column methods.

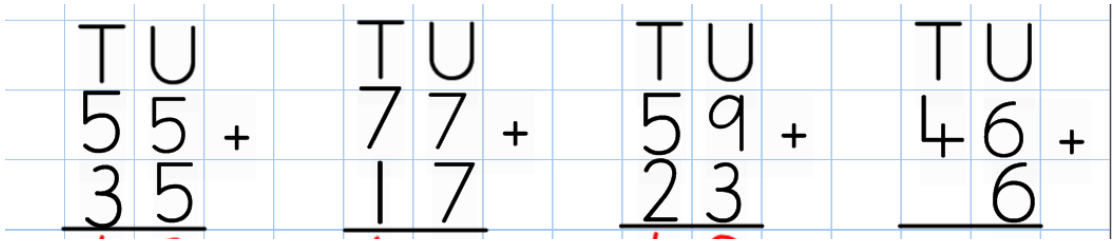


Your Turn

Complete these calculations



You can choose the expanded or compact column methods.



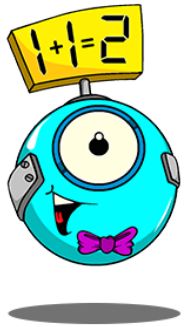
Look out for calculations where the ones add up to 10. Remember you can have 0 ones!

Extra Practice

1)	36 + 25	6)	27 + 38	11)	66 + 24	16)	37 + 28
2)	47 + 23	7)	52 + 29	12)	58 + 26	17)	36 + 46
3)	68 + 4	8)	58 + 7	13)	43 + 19	18)	28 + 59
4)	34 + 17	9)	36 + 25	14)	27 + 8	19)	32 + 48
5)	18 + 35	10)	19 + 37	15)	49 + 23	20)	66 + 27

Use these equations if you would like more practice.

Deepen the moment



Fatima and Ben are solving this calculation:

56 + 39

Work out the answer and explain your method to a friend.

I counted on from 56, counting on first in tens and then in ones.

I added all the tens together and all the ones together. Then, I put the tens and ones back together.

Which do you think is the best method? Why?

Do you think you could have improved the method that you used to work out the question? How?

Can you solve these problems using what you know about addition and comparing numbers?

Going Deeper

Write a number to complete each statement.

35 + 39 > ☐

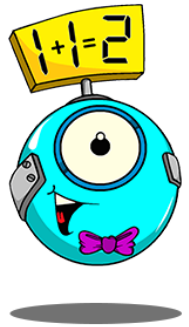
56 + 27 = ☐

64 + 28 < ☐

19 + 23 > ☐

45 + 46 = ☐

76 + 15 < ☐



Can you solve these problems using what you know about addition and comparing numbers?

Reasoning

Always, Sometimes Never!

I am thinking of a two-digit number. If I add ones to it, I will only need to change the ones digit.

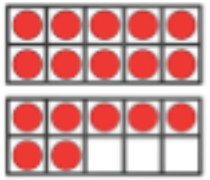

ANSWERS

Fluency Answers

We ♥ Maths

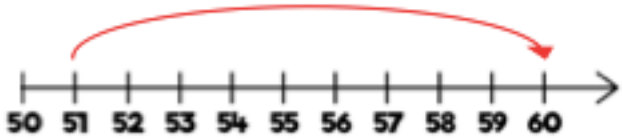
Flashback 4

1) Complete the bar model.



2) $\boxed{64} + 36 = 100$

3) $51 + 9 = \boxed{60}$



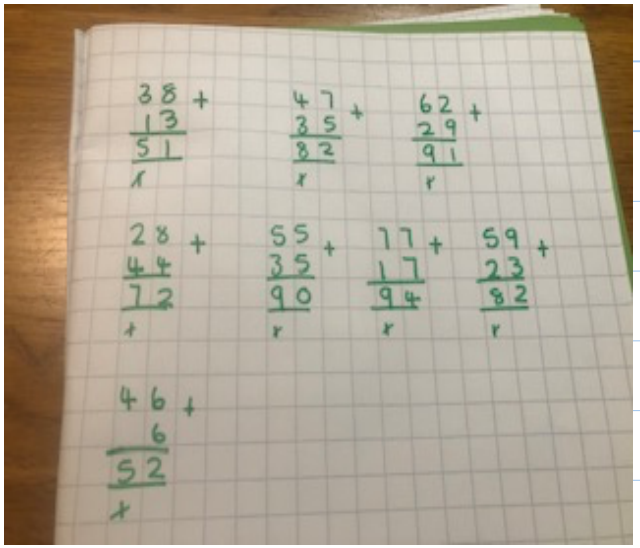
4) The Base 10 shows the number 34

Complete the sentence.

34 has __3__ tens and __4__ ones.

White Rose Maths

Column Method Answers: Crossing tens



T	U		T	U		T	U		T	U	
3	8	+	4	7	+	6	2	+	2	8	+
1	3		3	5		2	9		4	4	
1	1		1	2		1	1		1	2	
4	0		7	0		8	0		6	0	
5	1		8	2		9	1		7	2	

T	U		T	U		T	U		T	U	
5	5	+	7	7	+	5	9	+	4	6	+
3	5		1	7		2	3			6	
1	0		1	4		1	2		1	2	
8	0		8	0		7	0		4	0	
9	0		9	4		8	2		5	2	

Extend Page

Extra Practice Answers

1) $\begin{array}{r} {\scriptstyle 1} \\ 36 \\ +\,25 \\ \hline 61 \end{array}$

2) $\begin{array}{r} {\scriptstyle 1} \\ 47 \\ +\,23 \\ \hline 70 \end{array}$

3) $\begin{array}{r} {\scriptstyle 1} \\ 68 \\ +\,4 \\ \hline 72 \end{array}$

4) $\begin{array}{r} {\scriptstyle 1} \\ 34 \\ +\,17 \\ \hline 51 \end{array}$

5) $\begin{array}{r} {\scriptstyle 1} \\ 18 \\ +\,35 \\ \hline 53 \end{array}$

6) $\begin{array}{r} {\scriptstyle 1} \\ 27 \\ +\,38 \\ \hline 65 \end{array}$

7) $\begin{array}{r} {\scriptstyle 1} \\ 52 \\ +\,29 \\ \hline 81 \end{array}$

8) $\begin{array}{r} {\scriptstyle 1} \\ 58 \\ +\,7 \\ \hline 65 \end{array}$

9) $\begin{array}{r} {\scriptstyle 1} \\ 36 \\ +\,25 \\ \hline 61 \end{array}$

10) $\begin{array}{r} {\scriptstyle 1} \\ 19 \\ +\,37 \\ \hline 56 \end{array}$

11) $\begin{array}{r} {\scriptstyle 1} \\ 66 \\ +\,24 \\ \hline 90 \end{array}$

12) $\begin{array}{r} {\scriptstyle 1} \\ 58 \\ +\,26 \\ \hline 84 \end{array}$

13) $\begin{array}{r} {\scriptstyle 1} \\ 43 \\ +\,19 \\ \hline 62 \end{array}$

14) $\begin{array}{r} {\scriptstyle 1} \\ 27 \\ +\,8 \\ \hline 35 \end{array}$

15) $\begin{array}{r} {\scriptstyle 1} \\ 49 \\ +\,23 \\ \hline 72 \end{array}$

16) $\begin{array}{r} {\scriptstyle 1} \\ 37 \\ +\,28 \\ \hline 65 \end{array}$

17) $\begin{array}{r} {\scriptstyle 1} \\ 36 \\ +\,46 \\ \hline 82 \end{array}$

18) $\begin{array}{r} {\scriptstyle 1} \\ 28 \\ +\,59 \\ \hline 87 \end{array}$

19) $\begin{array}{r} {\scriptstyle 1} \\ 32 \\ +\,48 \\ \hline 80 \end{array}$

20) $\begin{array}{r} {\scriptstyle 1} \\ 66 \\ +\,27 \\ \hline 93 \end{array}$

Deepen the moment/ Going Deeper Answers

Fatima's method has lots of steps and it would be easy for her to make a mistake if she tried to do this mentally. Ben's method is the most efficient to use when calculating mentally.

56 + 39 = 95

35 + 39 > *any number less than 74*

56 + 27 = *83*

64 + 28 < *any number greater than 92*

19 + 23 > *any number less than 42*

45 + 46 = *91*

76 + 15 < *any number greater than 91*

Reasoning Answers

Always, Sometimes Never!

I am thinking of a two-digit number. If I add ones to it, I will only need to change the ones digit.

Sometimes, because if your ones total 10 or more you will have to exchange them which will change the tens digit.

I'm so impressed with your work Year 2.
You are superstars.