

**White**

**Rose  
Maths**

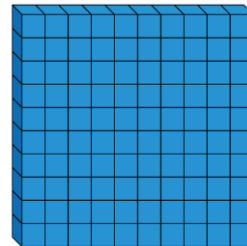
Year 3

**Addition & Subtraction**

$$\underline{\quad} + \underline{\quad} = 800$$

Each of the missing numbers are multiples of 100

Find all the possible missing numbers.



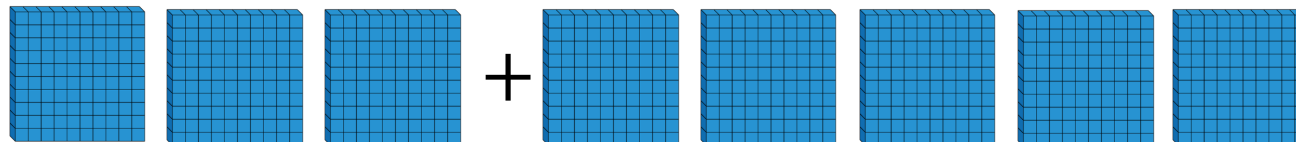
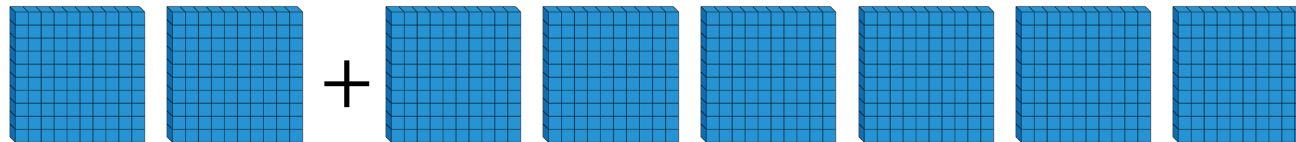
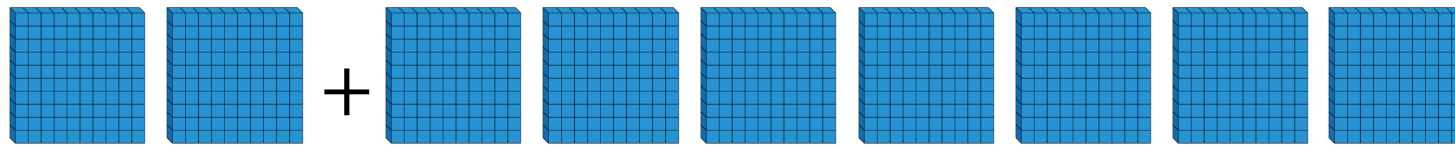
If I know  $700 - 500 = 200$ , what else do I know?

Show me using concrete and pictorial representations.


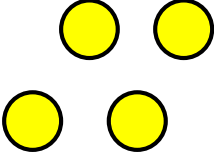
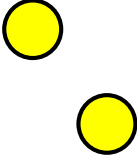
# Odd One Out

Which is the odd one out?

Explain why.



Rosie has added or subtracted ones to get this answer.

Hundreds	Tens	Ones
		

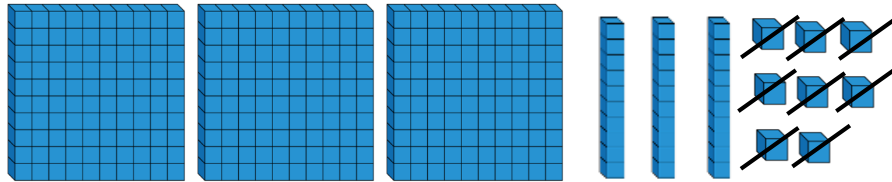
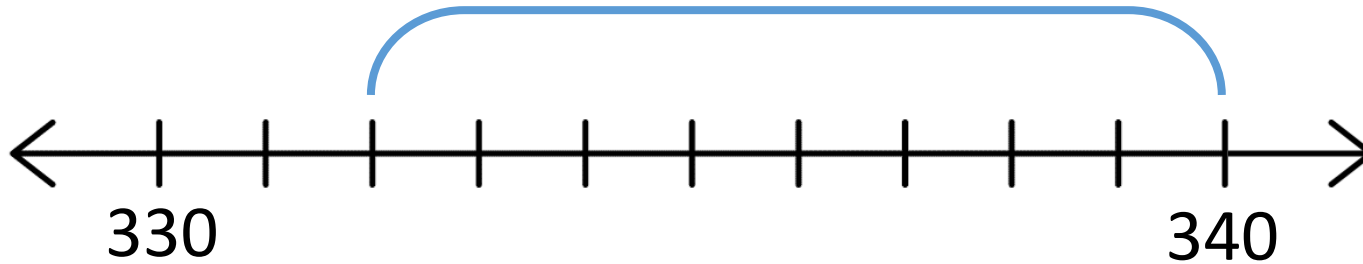
What could her calculation have been?

Her starting numbers are between and include 340 and 350

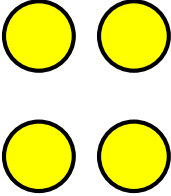
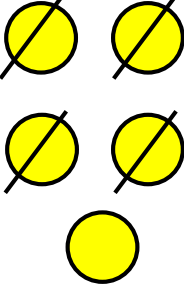
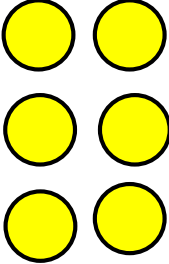
Did you use a strategy?

Do you see a pattern?

Which image does not represent  $339 - 8$ ?



Alex thinks the chart shows  $456 - 4$   
Do you agree?

Hundreds	Tens	Ones
		

Explain why.

# Always, Sometimes, Never

When 7 and 5 are added together in the ones column, the digit in the ones column of the answer will always be 2

What other digits would always give a 2 in the ones column? Prove it.



Which questions are harder to calculate?

$$234 + 3 =$$

$$506 + 8 =$$

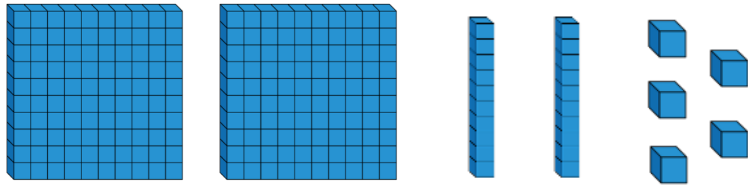
$$455 + 7 =$$

$$521 + 6 =$$

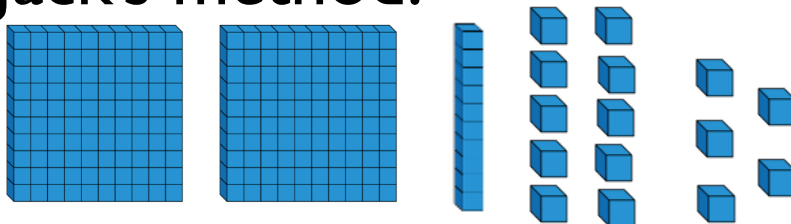
Explain your answer.

Ron and Jack use Base 10 to solve  $225 - 8$

Ron's method:



Jack's method:



Explain which method you would use and why.

Whitney has 125 stickers.

She gives less than 10 stickers to Eva.

She has an odd number of stickers left.

How many stickers might Whitney have given away?

What do you notice is the same about your answers?

If Whitney had an even number of stickers left, how many might she have given away?

Explain how you would solve these calculations:

$$564 - \underline{\quad\quad} = 558$$

$$\underline{\quad\quad} - 8 = 725$$

$$352 = 361 - \underline{\quad\quad}$$

# Spot the Mistake



589 – 70 is equal to 582

Amir

What should the answer be?

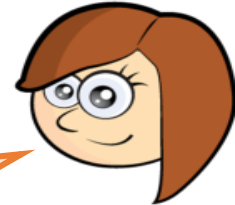
Write **one** calculation that could complete **all** of the statements.

$$456 - 10 < \boxed{\phantom{000}}$$

$$466 + 1 > \boxed{\phantom{000}}$$

$$466 + 0 = \boxed{\phantom{000}}$$

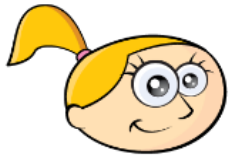
When I calculated 392 subtract  
20 I used my known fact that  
 $9 - 2 = 7$



Rosie

Explain Rosie's method.

Eva and Amir are calculating  $783 + 90$



793, 803, 813, 823, 833,  
843, 853, 863, 873

$$783 + 100 = 883$$

$$883 - 10 = 873$$



Whose method do you prefer?  
Explain why.



Sort these calculations into two groups. Justify your answer.

$$257 + 60$$

$$70 + 637$$

$$40 + 234$$

$$20 + 391$$

Compare your groups with a friend.  
Are they the same?

Which is the odd one out? Why?

$$336 + 80$$

$$453 + 60$$

$$347 + 70$$

$$285 + 80$$

Complete the missing digits.

$$13\boxed{\phantom{0}} - 50 = 85$$

$$334 - \boxed{\phantom{0}}0 = 294$$

$$545 = 6\boxed{\phantom{0}}5 - 70$$

Whitney thinks the rule for the function machine is subtract 60

Is she correct? Explain why.

**Input**

**Rule**

**Output**

567  $\longrightarrow$  ?  $\longrightarrow$  497

How many different methods could you use to solve

$$837 - 90?$$

Share your methods with a partner.



Alex

$$306 + 300 = 906 - 300$$

Is she correct?

Explain how you know.

Teddy starts with the number 356

He adds a multiple of 100

His new number is greater than 500 but less than 800

Complete the table.

<b>Numbers he couldn't have added</b>	<b>Numbers he could have added</b>

Complete the scenarios so they match the bar model.

Ron has \_\_\_\_\_ altogether.

He spends \_\_\_\_\_ and has £476 pounds left.

Jack has \_\_\_\_\_

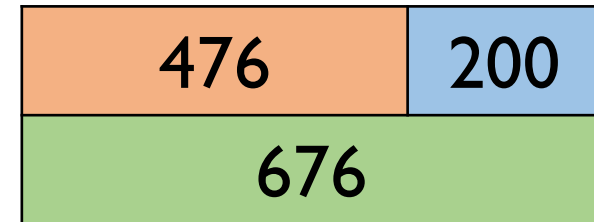
Eva has £200

They have \_\_\_\_\_ altogether.

Amir has £200 more than Rosie.

Amir has \_\_\_\_\_

Rosie has \_\_\_\_\_



Draw your own bar model where one of the parts is a multiple of 100

Write scenarios to match the bar model.



Dora uses column addition to solve  $251 + 4$

	2	5	1
+			4
	2	5	5

Is this the most efficient method?  
Explain what Dora could have done.

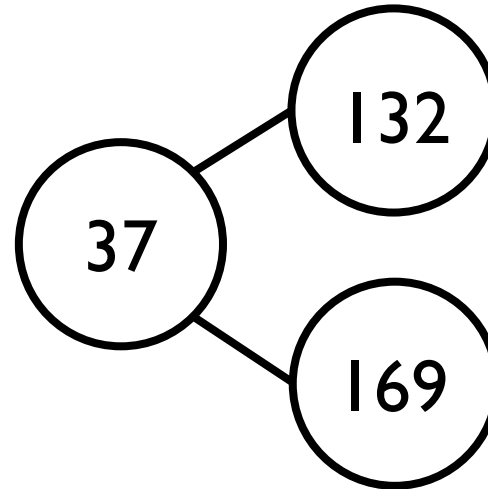
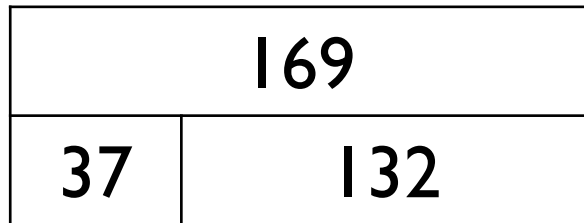
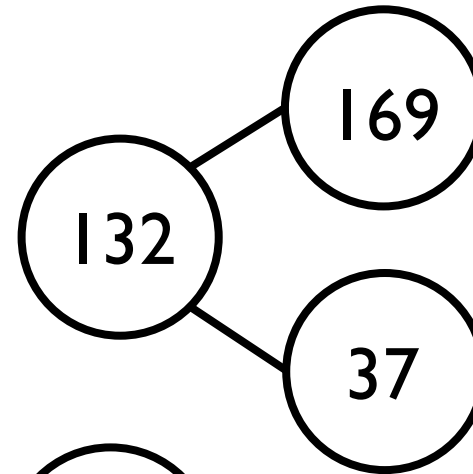
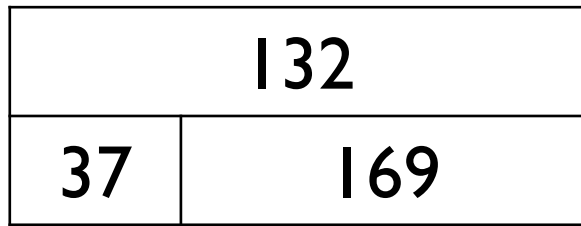
Tell Dora how she can use your strategy to solve  $241 + 40$  and  $241 + 400$

# Investigate

Does adding and subtracting ones to a 3-digit number only affect the ones column?

Does adding and subtracting tens to a 3-digit number only affect the tens column?

Eva has 169 sweets in a jar.  
 She gives 37 sweets to Mo.  
 Which model represents this problem?



Explain the mistake Jack has made.

	H	T	O
	2	3	1
+	6	3	

Rosie has 77 sweets.

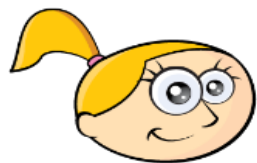
Mo has 121 sweets.

Which addition will find how many sweets they have altogether?

		7	7
+	1	2	1

	1	2	1
+		7	7

Explain your answer.



Eva

$$265 + 27 = 282$$

Here is her working out:

	2	6	5
+		2	7
	2	8	2

Is she correct? Explain why.

Sort the additions into the table.

No exchange	Exchange 10 ones	Exchange 10 tens

$375 + 18$

$456 + 72$

$912 + 79$

$910 + 79$

$456 + 27$

$342 + 35$

Can you write 2 more additions in each column?

Choose one 2-digit and one 3-digit number.

Write additions that have an exchange in the ones and the tens columns.

23      35  
81      56

756      767  
487      619



Rosie thinks  $352 - 89 = 337$

	<b>H</b>	<b>T</b>	<b>O</b>
	3	5	2
—		8	9
	3	3	7

Is she correct?  
Explain why.

Use  $<$ ,  $>$  or  $=$  to make the statements correct.

$$234 - 47 \quad \bigcirc \quad 234 - 57$$

$$472 - 84 \quad \bigcirc \quad 473 - 84$$

$$406 - 89 \quad \bigcirc \quad 416 - 99$$

Alex, Teddy and Dora are trying to work out  $300 - 57$   
Who has the most efficient way of working it out?  
Explain how you know.



Alex

I know that take away means difference, so I can do 299 take away 56 and get the right answer.

I can count on from 57 to 100,  
and then count on to 300



Teddy



Dora

I can use the column method to work it out and exchange when I need to.

Jack is calculating  $506 + 243$

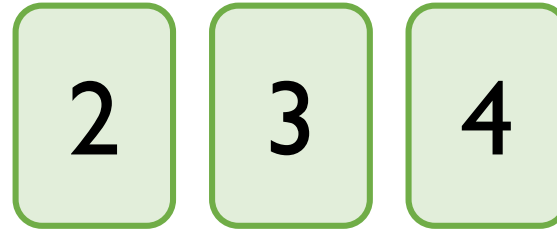
Here is his working out.

		5	6
+	2	4	3
	2	9	9

Can you spot Jack's mistake?

Work out the correct answer.

Here are three digit cards.



Alex and Teddy are making 3-digit numbers using each card once.



Alex

I have made the greatest possible number.

I have made the smallest possible number.



Teddy

Work out the total of their two numbers.

Roll a 1 to 6 die.

Fill in a box each time you roll.

$$\square\square\square + \square\square\square =$$

Can you make the total:

- An odd number
- An even number
- A multiple of 5
- The greatest possible number
- The smallest possible number



Complete the statements to make them correct.

$$487 + 368 \quad \bigcirc \quad 487 + 468$$

$$326 + 258 \quad \bigcirc \quad 325 + 259$$

$$391 + 600 \quad = \quad 401 + \underline{\hspace{2cm}}$$

Explain why you do not have to work out the answers to compare them.

Start with the number 888

Roll a 1-6 die three times, to make a 3-digit number.

Subtract the number from 888

What number have you got now?

What's the smallest possible difference?

What's the largest possible difference?

What if all the digits have to be different?

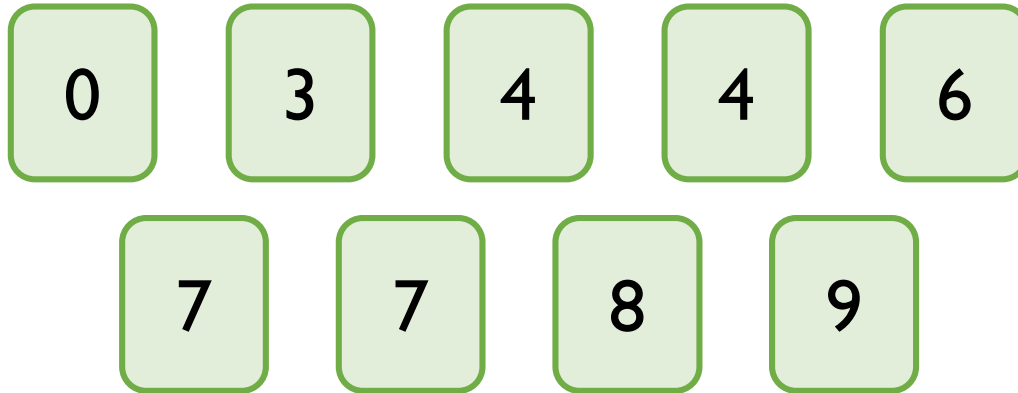
Will you ever find a difference that is a multiple of 10?

Why?

Do you have more odd or even differences?



Use the digit cards to complete the calculation.



-		

The digits in the shaded boxes are odd.

Is there more than one answer?

Work out the missing digits.

	<b>H</b>	<b>T</b>	<b>O</b>
	5	?	3
—	2	1	8
	3	1	5

	<b>H</b>	<b>T</b>	<b>O</b>
	?	0	?
—	2	?	8
	2	4	6

Eva is working out  $406 - 289$

Here is her working out:

Step 1	Step 2
$  \begin{array}{r}  \overset{3}{\cancel{4}}0\overset{1}{6} \\  - 289 \\  \hline  \phantom{0}7 \\  \hline  \end{array}  $	$  \begin{array}{r}  \overset{2}{\cancel{3}}\overset{1}{\cancel{4}}0\overset{1}{6} \\  - 289 \\  \hline  027 \\  \hline  \end{array}  $

Explain her mistake.

What should the answer be?



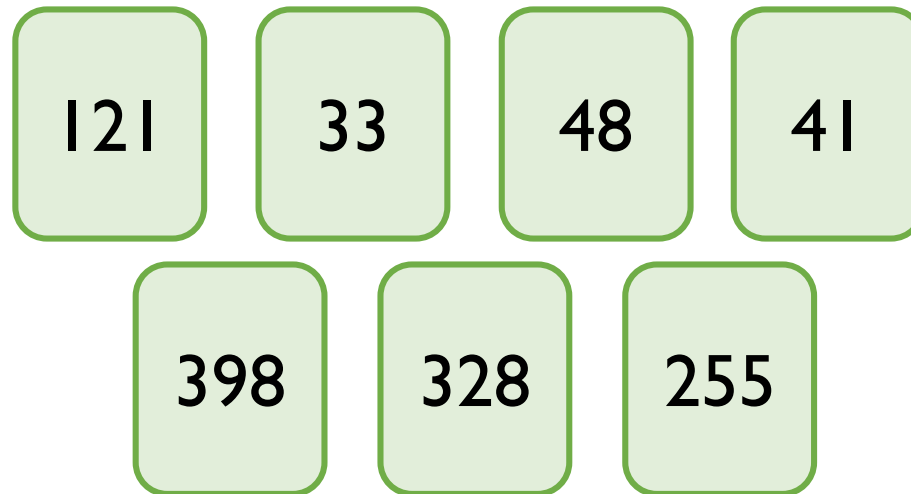
Tommy

I estimate  $143 - 95$  will be 50  
because I will subtract 100  
from 150

Is this a good estimate? Why?

Are there any other ways he could have estimated?

Use the number cards to make different calculations with an estimated answer of 70





Mo

If I add two numbers together,  
I can check my answer by  
using a subtraction of the  
same numbers after e.g. to  
check  $23 + 14$ ,  
I can do  $14 - 23$

Do you agree? Explain why.

I completed an addition and then used the inverse to check my calculation.

When I checked my calculation, the answer was 250.

One of the other numbers was 355.

What could the calculation be?

$$\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

$$\underline{\quad\quad} - \underline{\quad\quad} = 250$$