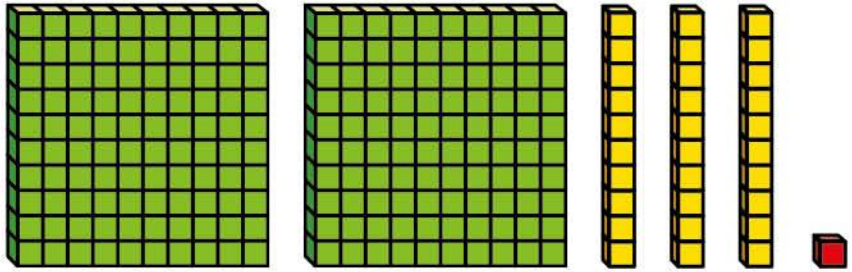
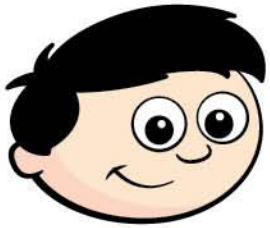
Autumn Block 1

Place value

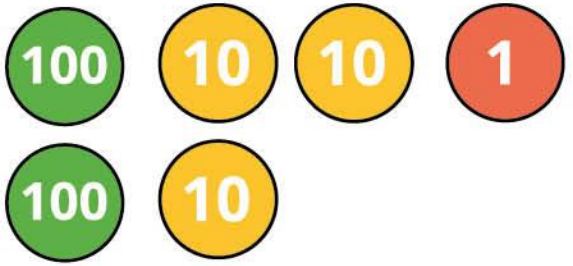
Whitney and Dexter have each made a number.

Whitney





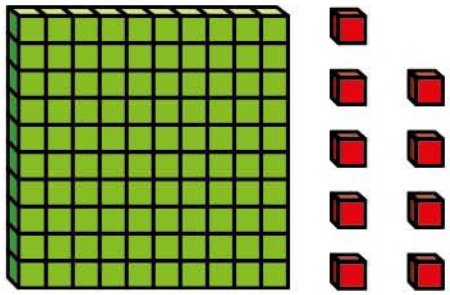
Dexter

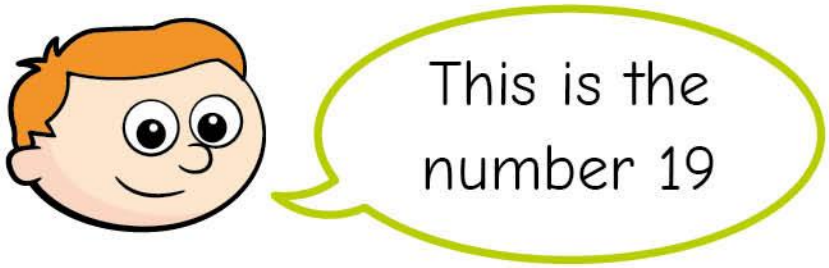


What numbers have they made?

What is the same about their numbers?

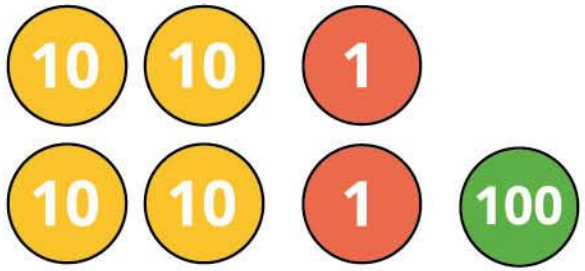
What is different?





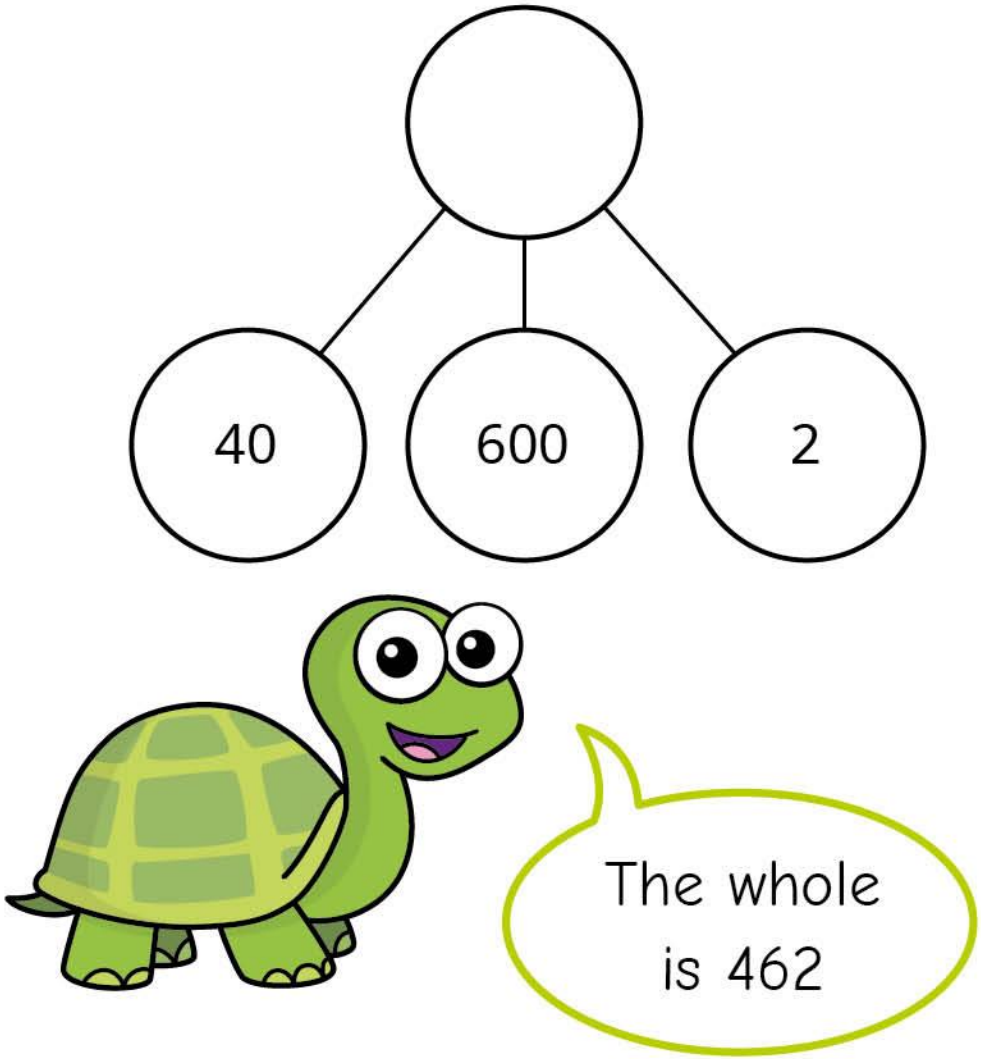
What mistake has Ron made?

What is the number?



What mistake has Dora made?

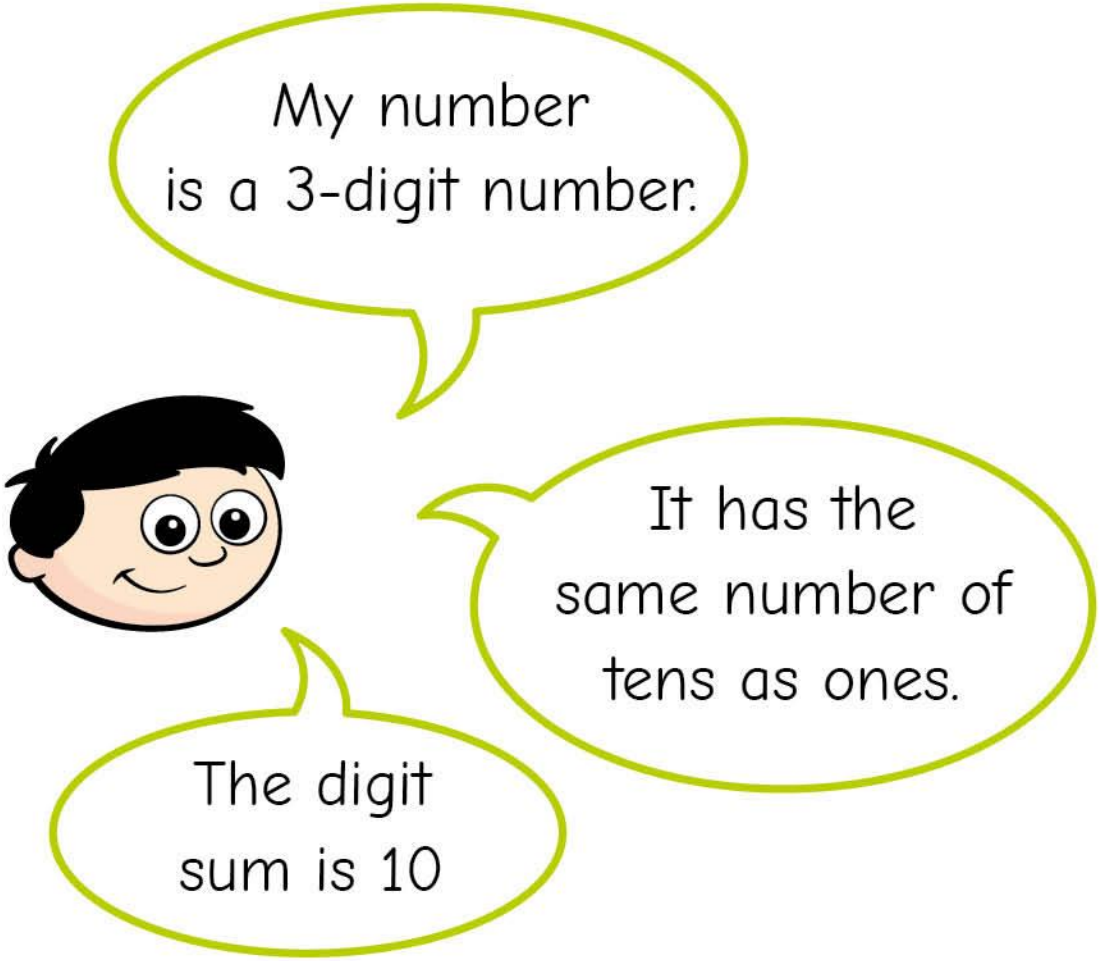
What is the number?



Explain the mistake that Tiny has made.

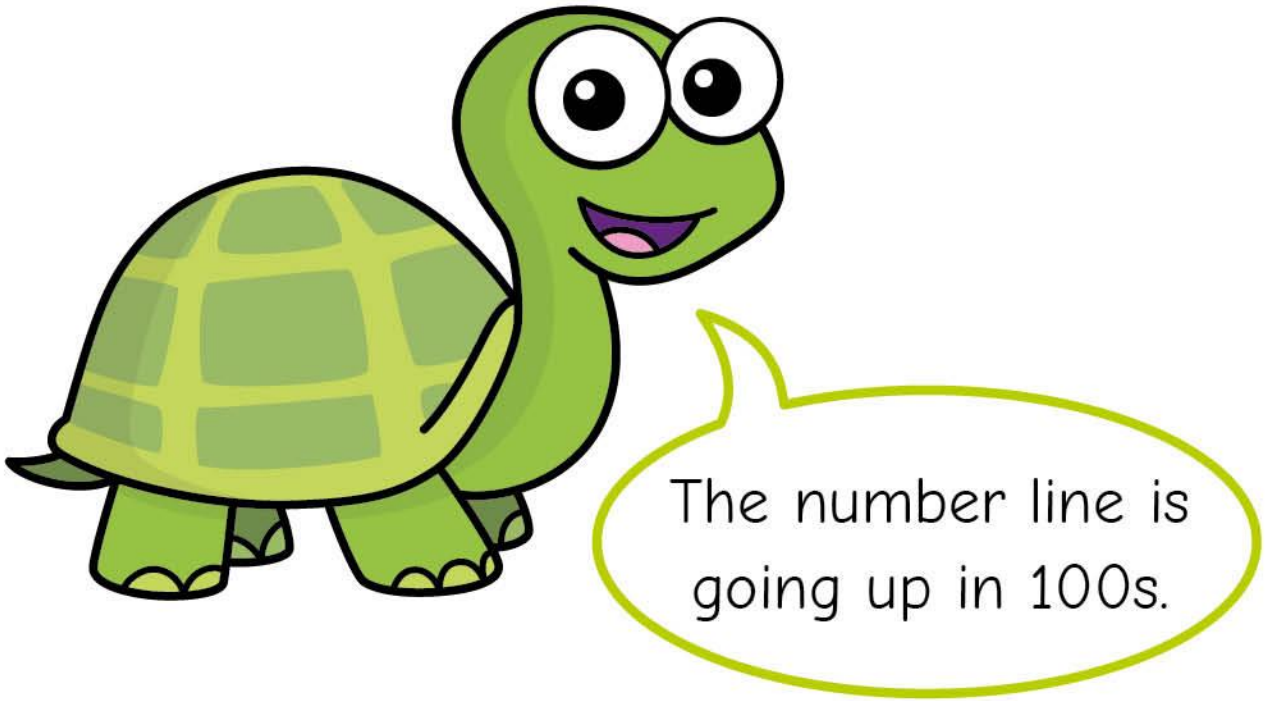
What is the whole?

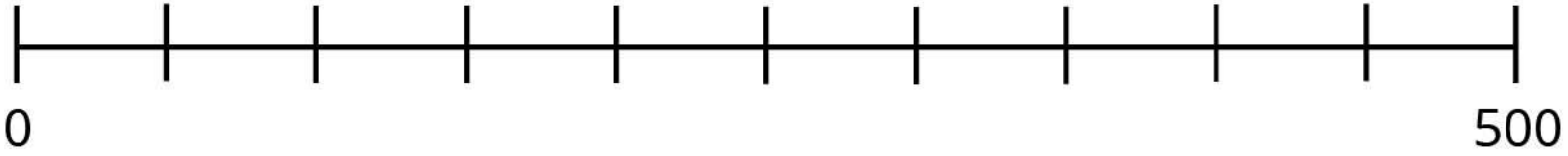
Dexter is thinking of a number.



What could Dexter's number be?

Find each possibility and partition it.

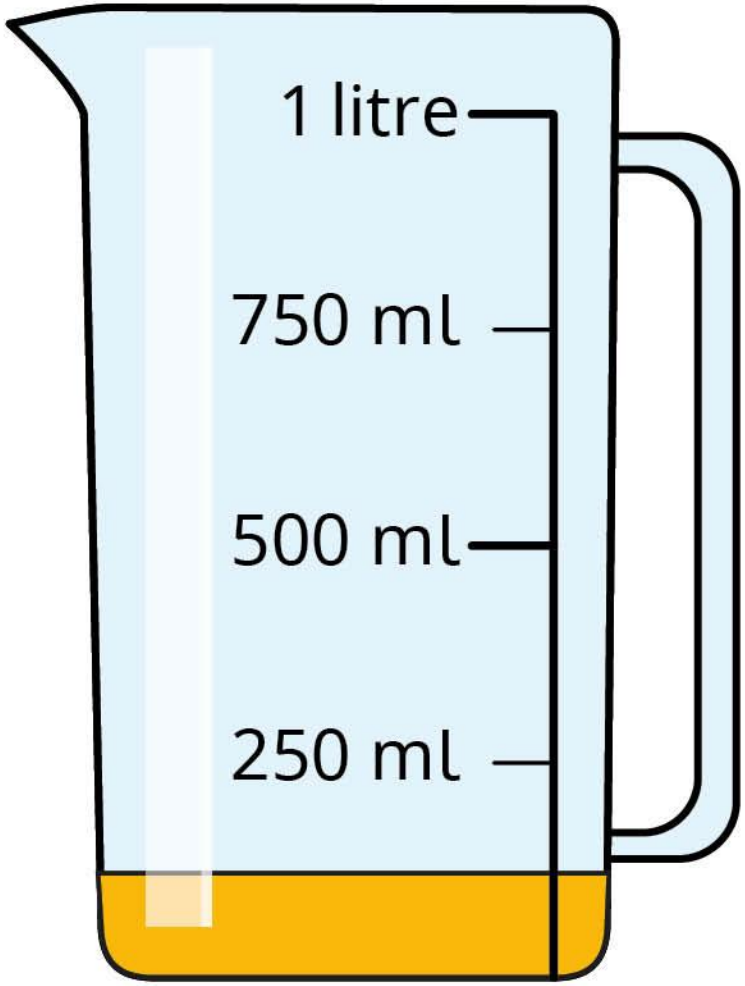




Do you agree with Tiny?

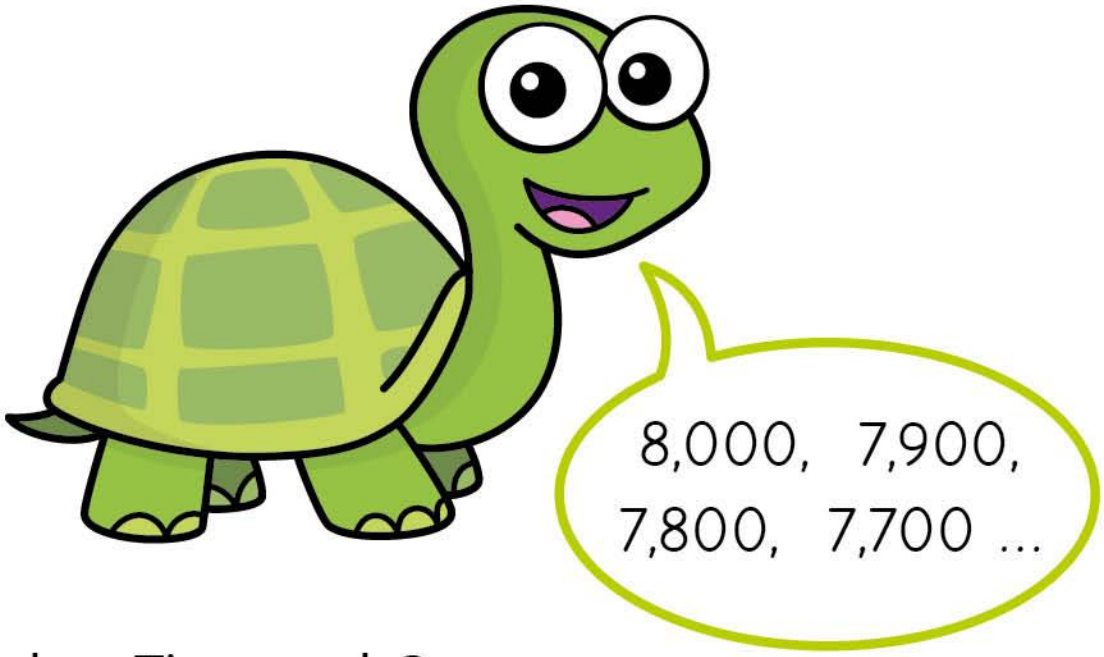
Talk about your answer with a partner.

Filip has poured some juice from a jug.



Estimate how much juice is left in the jug.

Tiny is counting back in 1,000s from 8,000



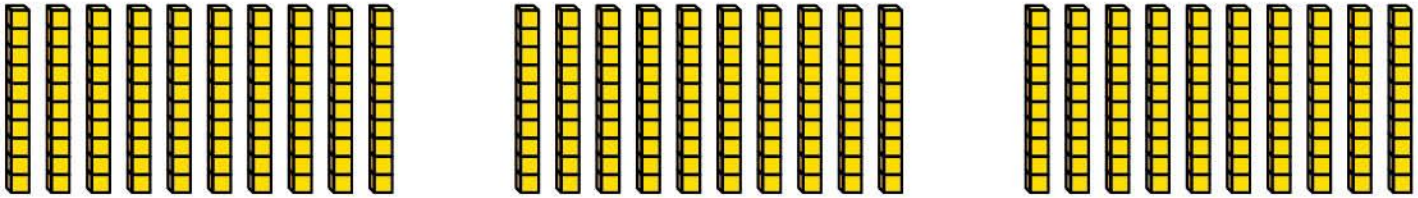
What mistake has Tiny made?

Is the statement true or false?

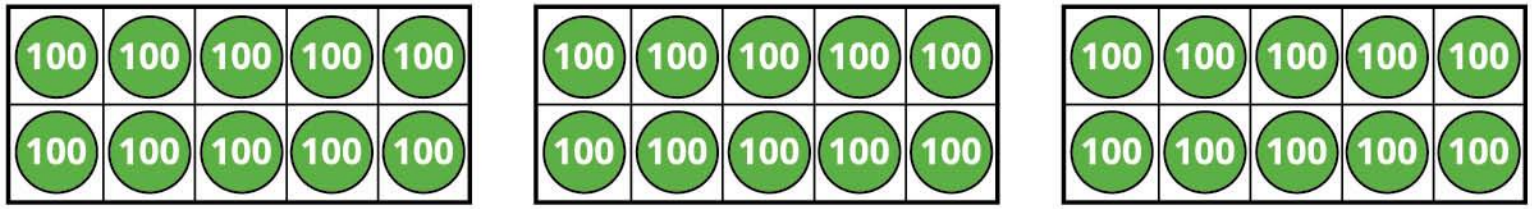
When counting in 1,000s, the numbers will always have four digits.

Jack, Huan and Dani are asked to represent 3,000

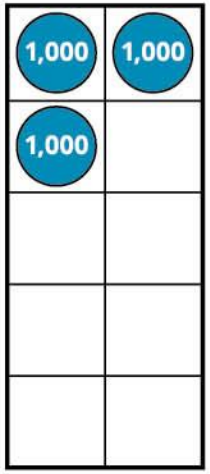
Jack



Huan



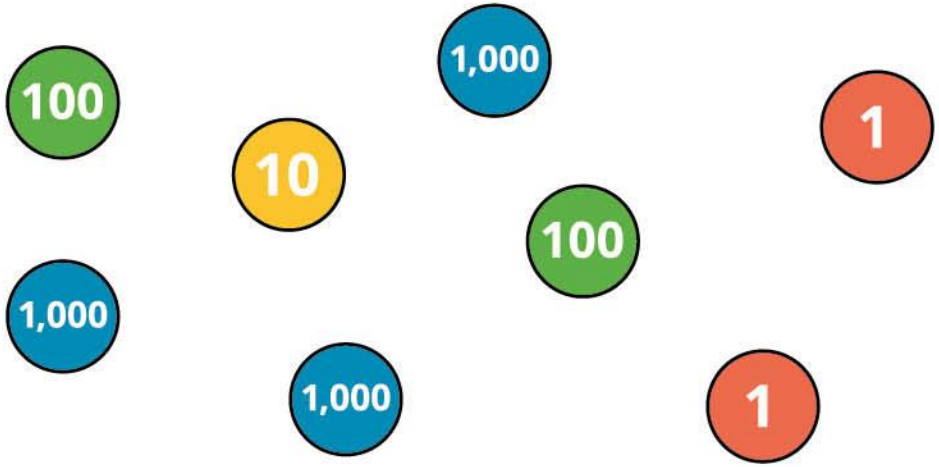
Dani



Who do you agree with?

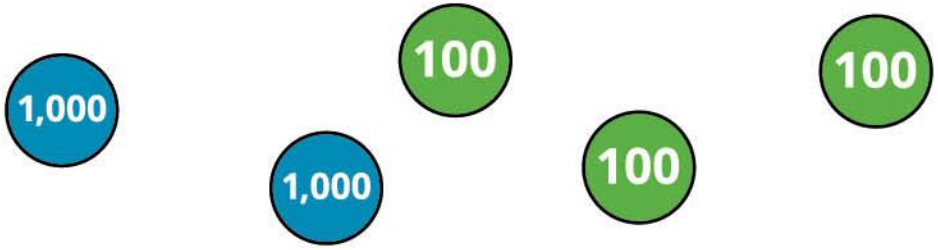
Explain your answer.

Aisha is making 3,512 with place value counters.



What other place value counters could she add to make 3,512?

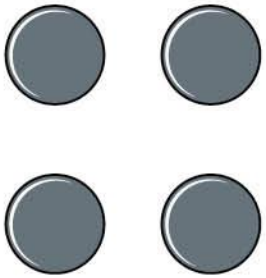
Jack has two 1,000 counters and three 100 counters.



What 4-digit numbers can he make?

Use exactly four counters to make as many 4-digit numbers as possible.

Write each number in numerals.



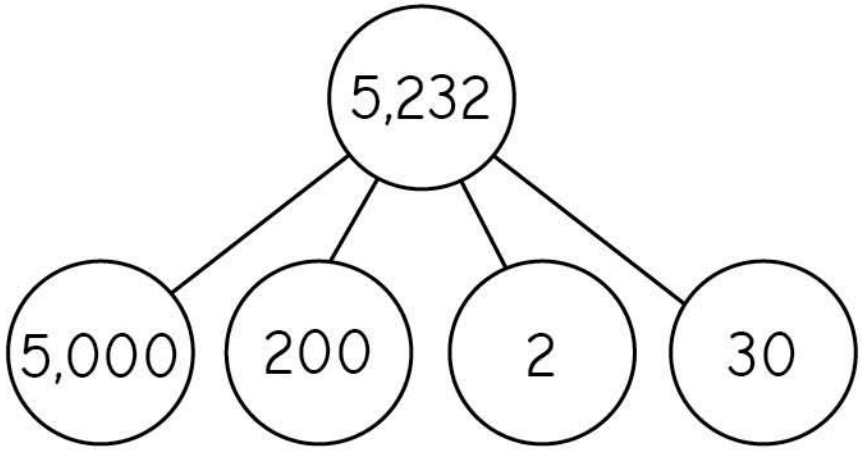
Th	H	T	O

Tiny is partitioning 6,902

$$6{,}902 = 600 + 90 + 2$$

Explain the mistake Tiny has made.

Tiny is partitioning the number 5,232 and representing it in a part-whole model.



Has Tiny partitioned the number correctly?

Explain your answer.

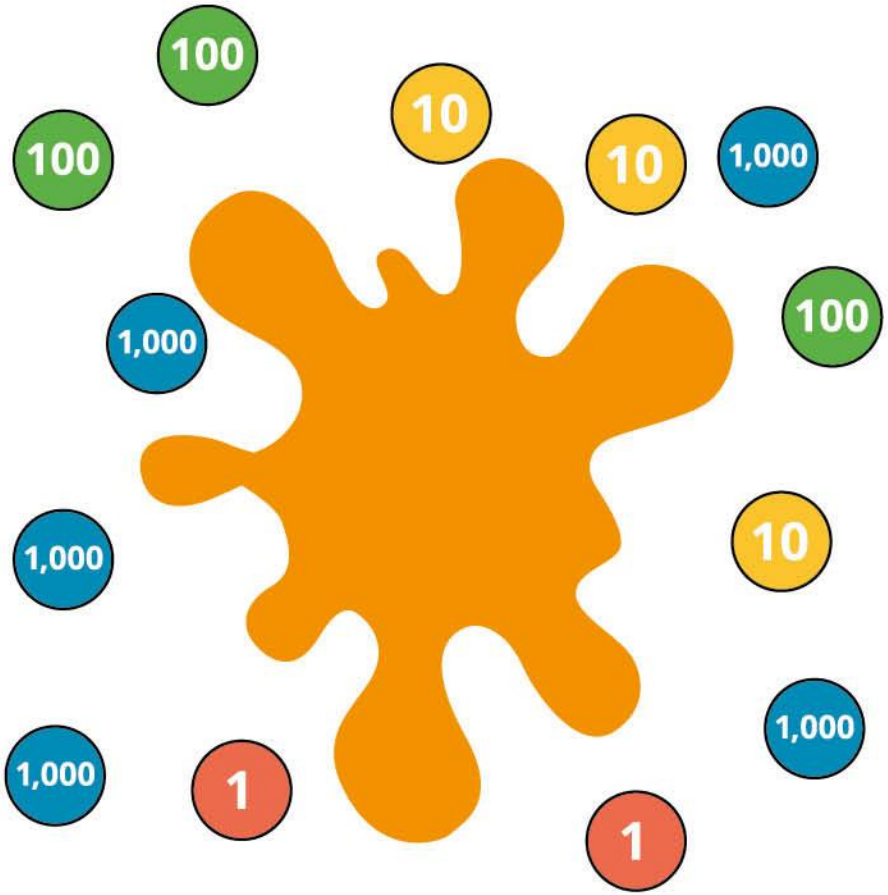
Use the clues to work out Tommy's number.

- The thousands digit is 3 greater than the tens digit.
- The total sum of digits is 16
- The 4-digit number is odd.
- The tens digit is 2
- The hundreds digit is double the ones digit.

Think of another 4-digit number and challenge a partner to work out your number from clues.

Some place value counters are hidden.

The total is six thousand, four hundred and thirty-two.



Which place value counters could be hidden?

Find at least three solutions.

Which is the odd one out?

3,500	3 thousands + 50 tens
2 thousands + 15 hundreds	35 tens

Explain how you know.

Scott and Esther are each thinking of a number.

- Scott's number has 53 hundreds, 6 tens and 2 ones.
- Esther's number has 5 thousands, 36 tens and 1 one.

Who is thinking of the greater number?

How do you know?

Are the statements always true, sometimes true or never true?

When you find 100 more or less than a number, the tens column changes.

When you find 10 more or less than a number, the tens column changes.

When you find 1 more or less than a number, the thousands column changes.

Explain your reasoning.

Ron and Dora are thinking of different numbers.

1,000 more than Ron's number is 3,942

Dora's number is 100 more than Ron's number.

What are Ron and Dora's numbers?

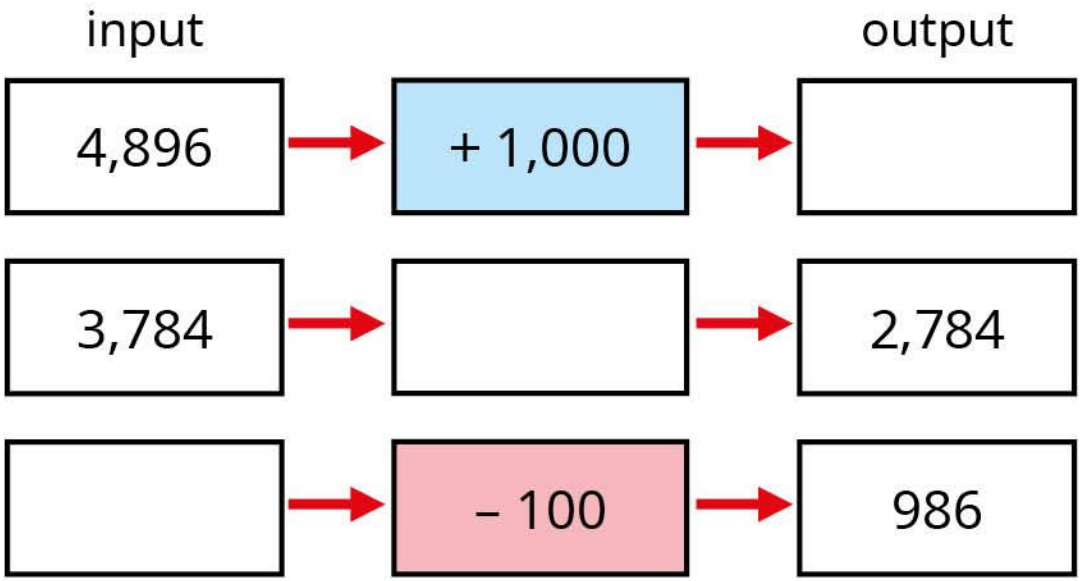
Tiny has put some counters on a place value chart.

One counter has fallen off.

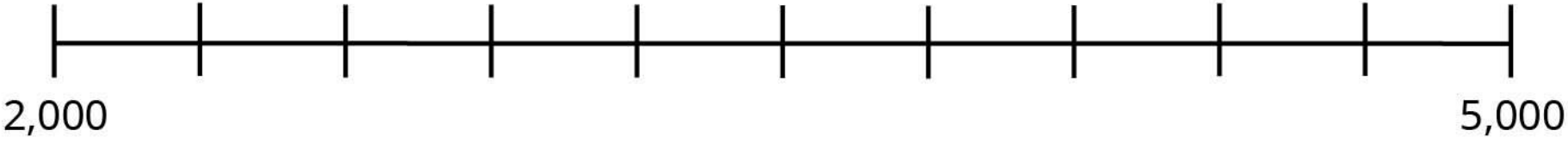
Th	H	T	O
●● ●● ●		●● ●●	●● ●

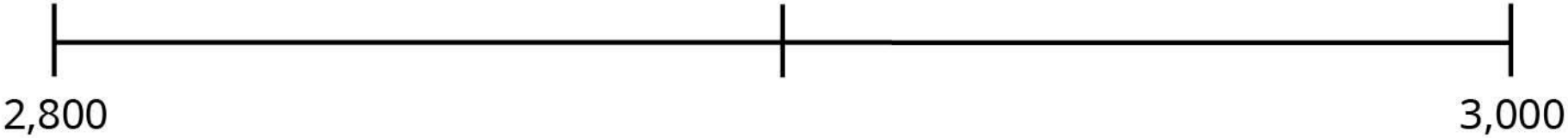
List all the possible numbers that Tiny could have started with.

Complete the function machines.



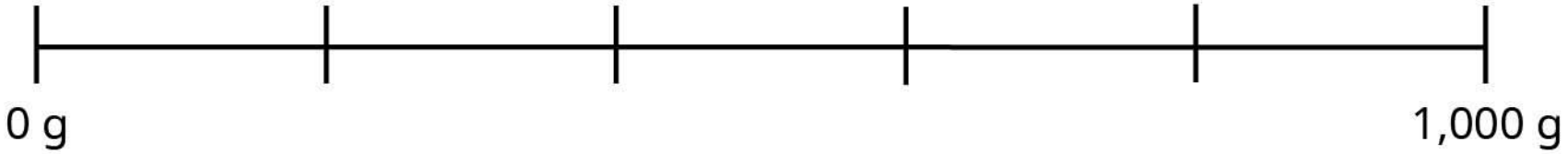
Label 2,900 on each number line.





What do you notice?

Tiny is working out the missing values on a scale.

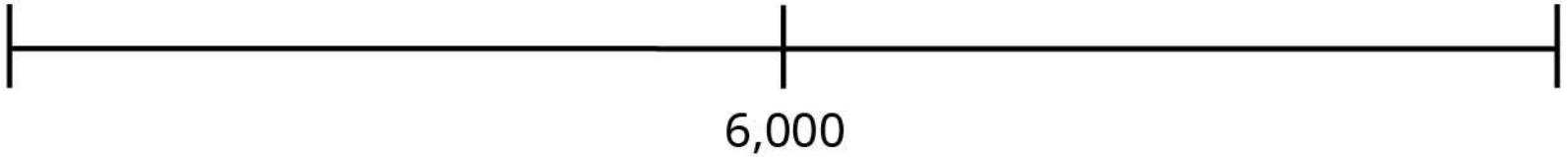


$$1{,}000 - 0 = 1{,}000$$

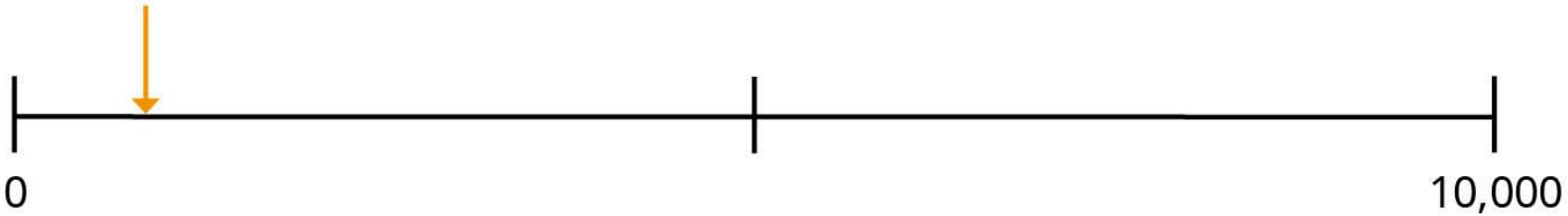
$$1{,}000 \div 6 = ?$$

Explain the mistake that Tiny has made.

What could the start and end numbers be?



Mo and Teddy are estimating the number that the arrow is pointing to.



I estimate it is approximately 10

Mo

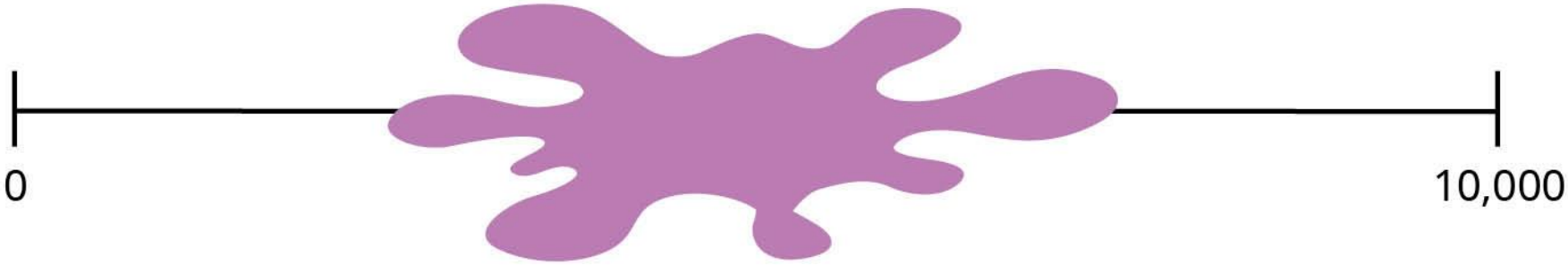
I estimate it is approximately 1,000

Teddy

Who do you agree with?

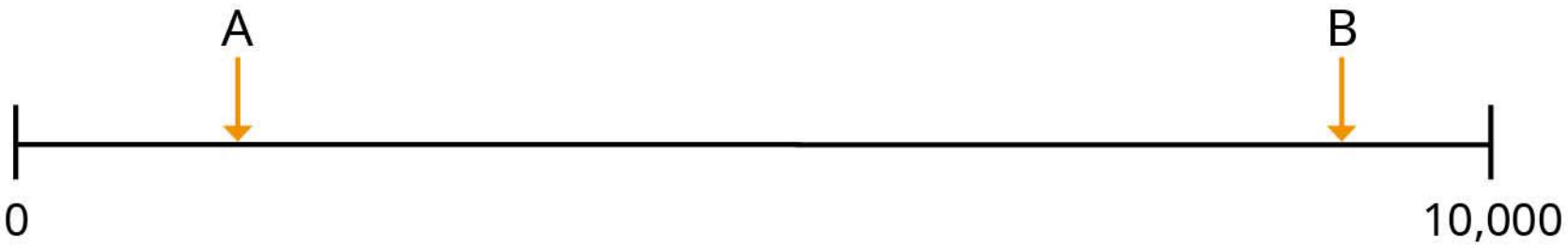
Explain your answer.

Miss Rose has spilt some paint on the number line.



Estimate three numbers that could appear under the paint.

Explain your answers.

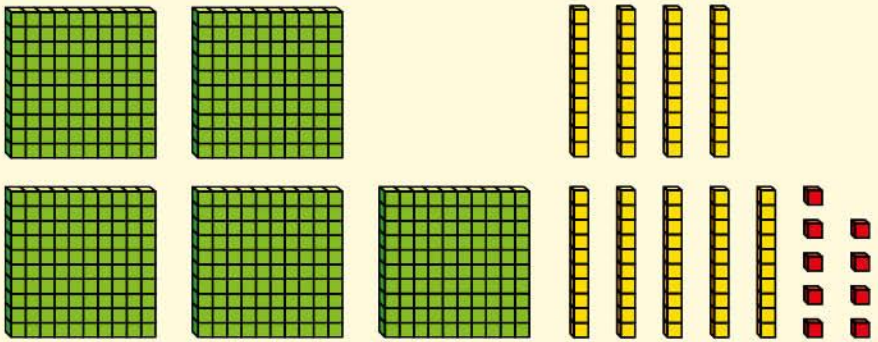


- C is greater than A.
- C is less than half of B.

Give three possible values for C.

Sort the cards into the table.

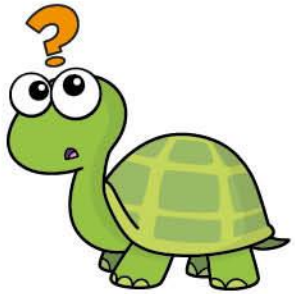
5 thousands	4,000 + 300 + 50 + 9
100 less than 5,090	8,543
one thousand, seven hundred and six	



Numbers 5,000 or greater	Numbers less than 5,000

Tiny is thinking of a number.

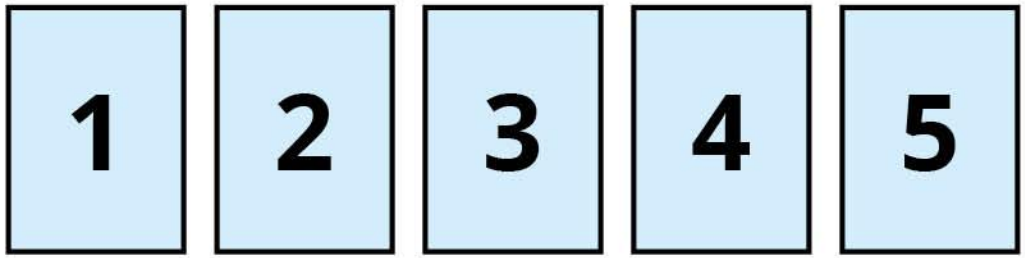
- It is greater than 4,200 but less than 5,800
- The digits sum to 16



What number could Tiny be thinking of?

Give four possible answers.

Use the digit cards to complete the comparison.



You can use each digit once only.

5,64_ < _,73_

2,_38 > 2,3_5

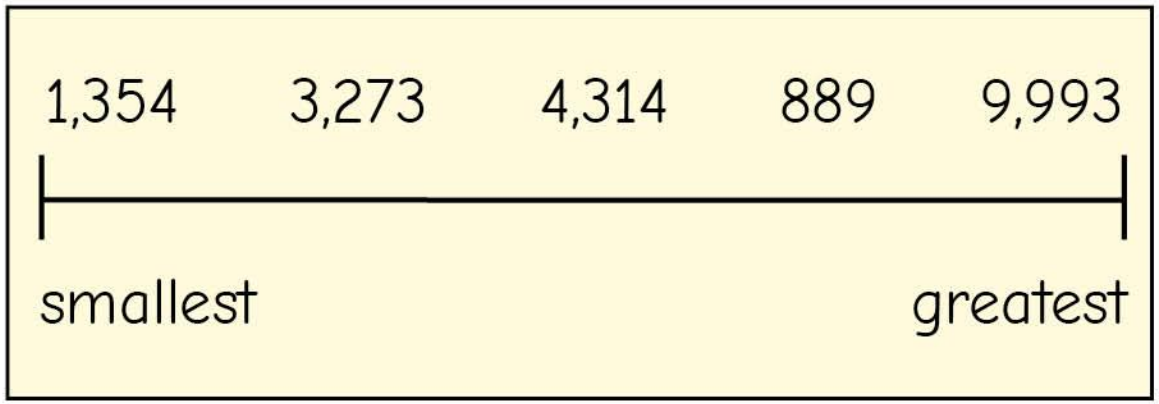
These numbers are in order from greatest to smallest.

3,6 __ 4	3, __ 29	3,5 _ 8

The same digit is missing from each number.

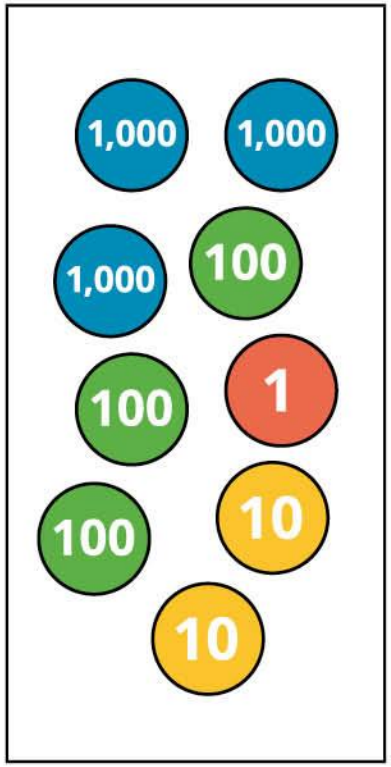
What is the missing digit?

Aisha has written five numbers in ascending order.

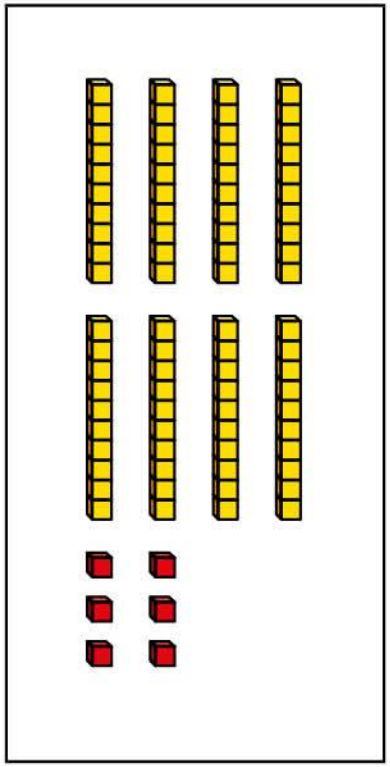


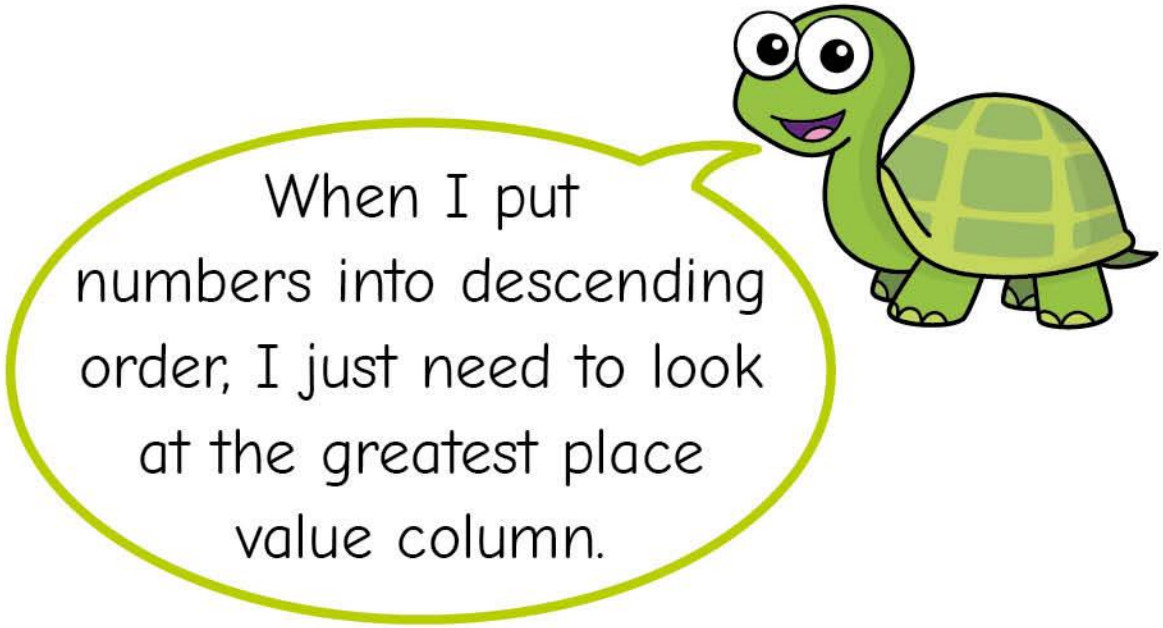
What mistake has she made?

Put the numbers in ascending order.



half of 2,400





Is Tiny correct?

Explain your answer.

Is the statement true or false?

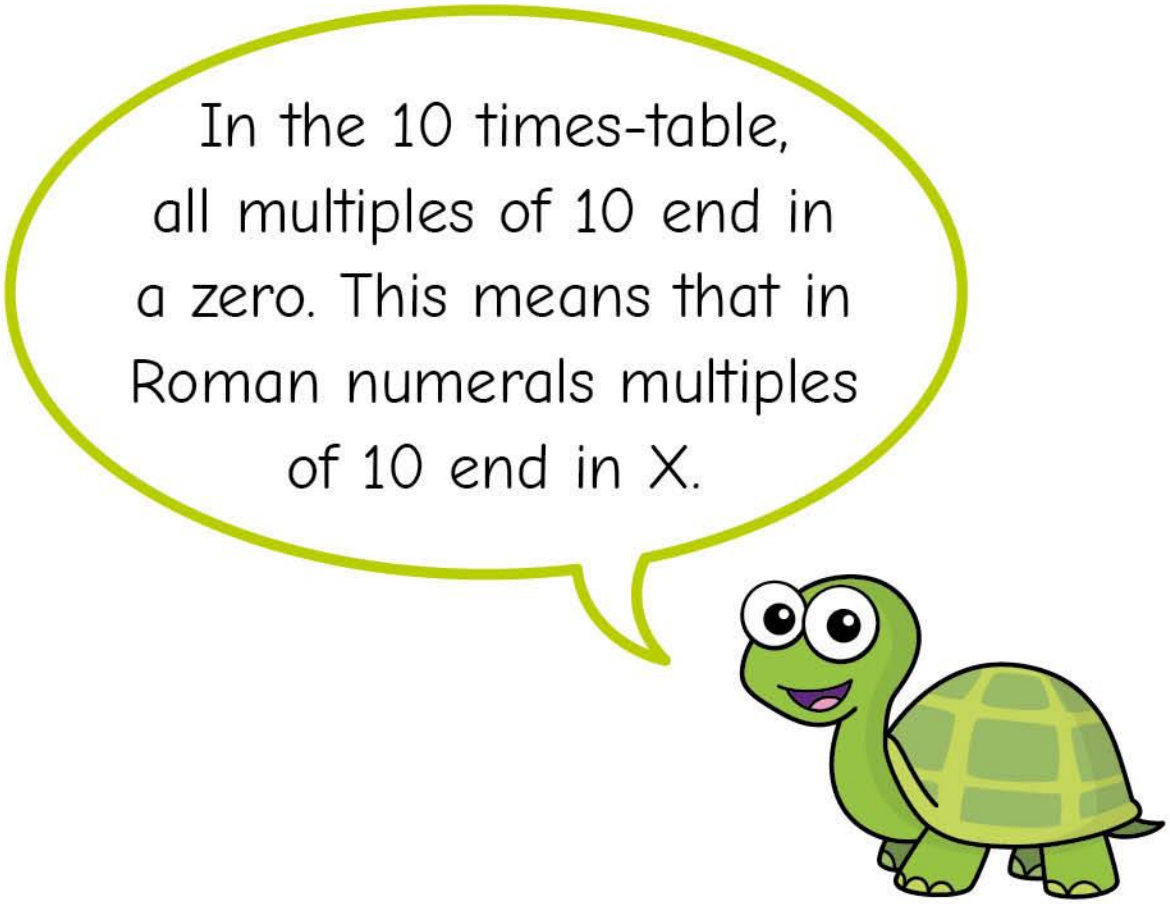
XX + II = XXII,
so XXII + XXII = XXIIXXII

Explain your answer.

Work out the calculation, giving your answer in Roman numerals.

XIV + XXXVI

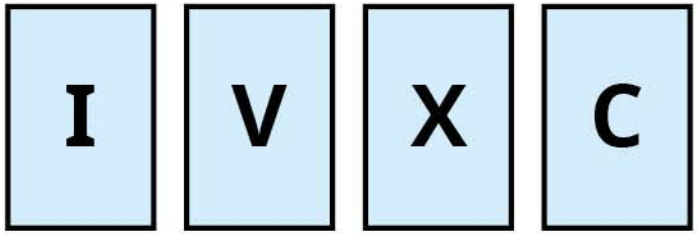
Make up some other calculations using Roman numerals that have the same answer.



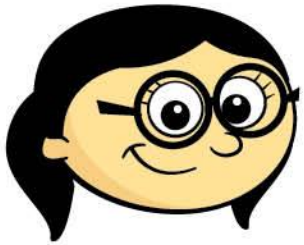
Is Tiny's statement always, sometimes or never true?

Give examples to support your answer.

Which of these Roman numerals is never written to the left of X?



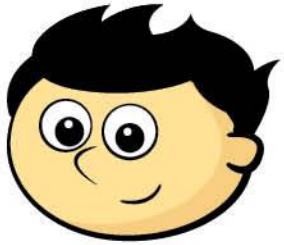
Annie and Jack are rounding 562 to the nearest 10



It rounds to 570 because 6 is more than 5

Annie

It rounds to 560 because 2 is less than 5



Jack

Who do you agree with?

Explain your answer.

When rounded to the nearest 10, there are 350 children in a running club.

How many children could there be?

What mistake has Tiny made?

To the nearest 100, there are 600 people at a football match.

What is the smallest number of people that could be at the football match?

What is the greatest number of people that could be at the football match?

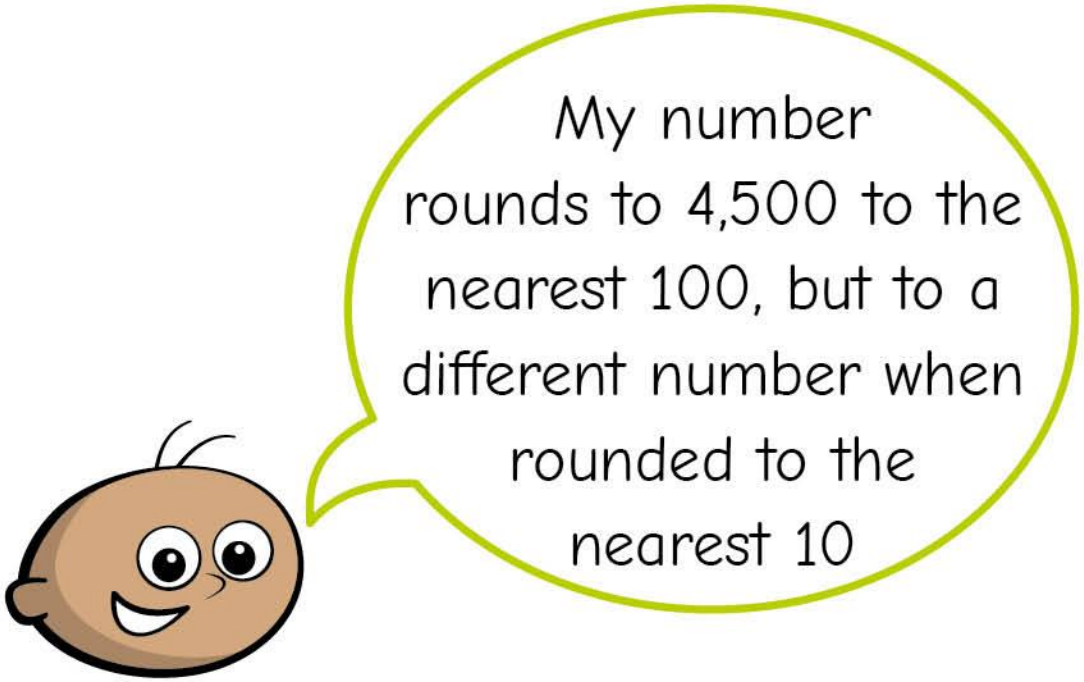
How would your answers change if the number of people at the football match was 600 when rounded to the nearest 10?

To the nearest 100, there are 4,600 people at a concert.

The sum of the digits in the number is 15

How many people could there be?

Tommy is thinking of a number.



What number could Tommy be thinking of?

How many answers can you find?

Each of the numbers round to 4,000 to the nearest 1,000

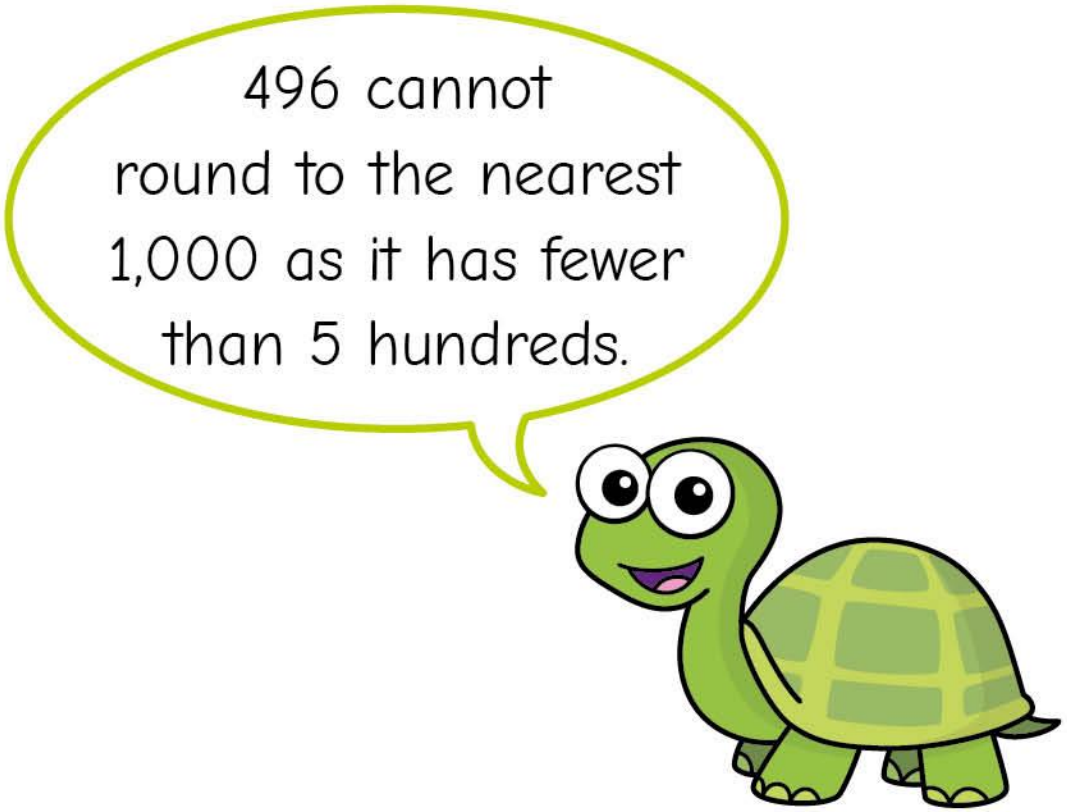
What could the missing digits be?

4, _ 28

_ ,842

4,2 _ 8

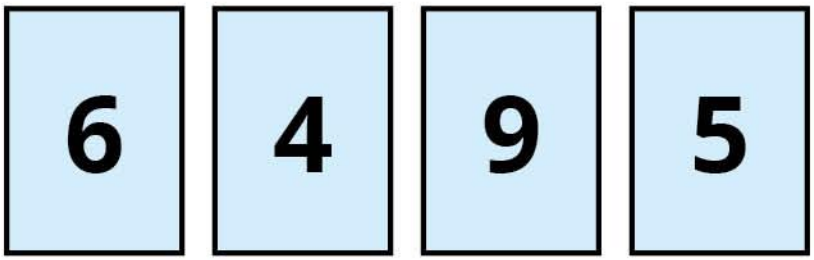
_ ,482

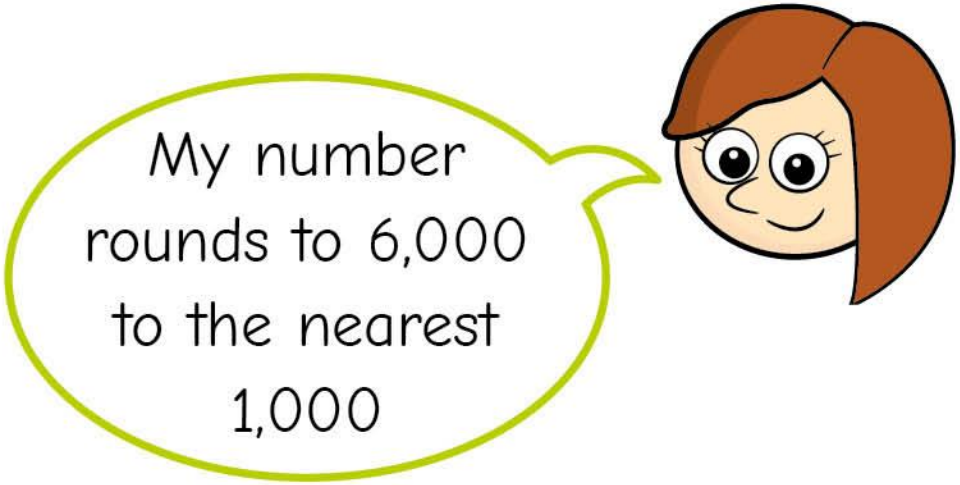


Do you agree with Tiny?

Explain your answer.

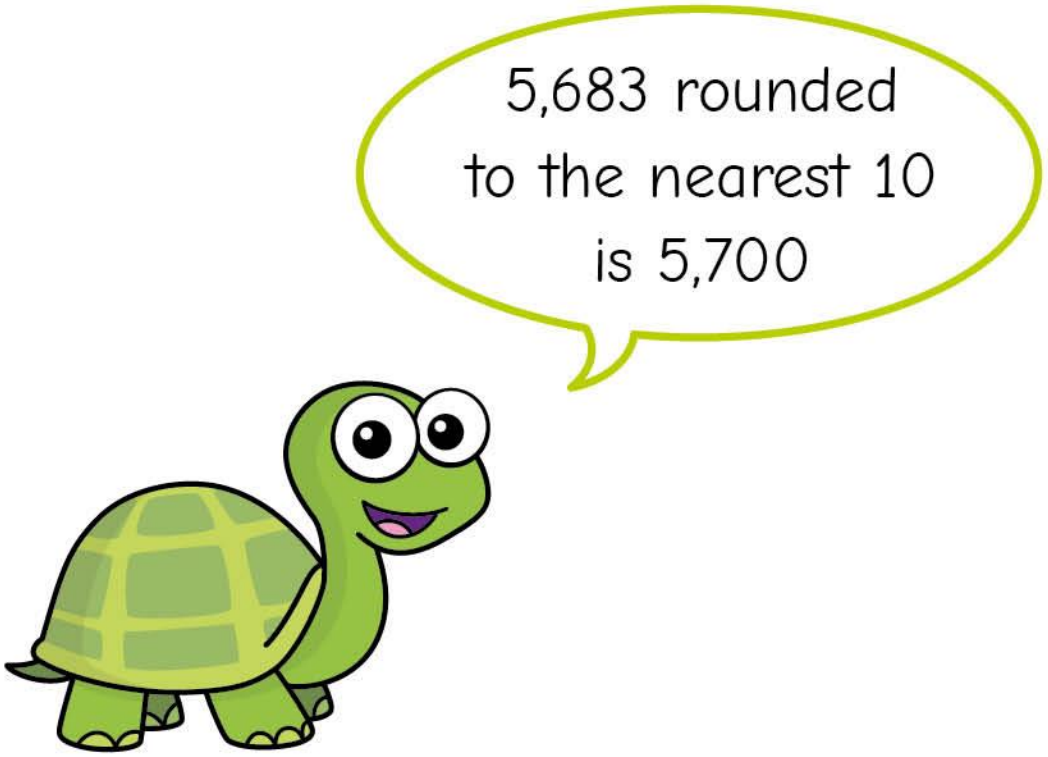
Rosie makes a 4-digit number using the digit cards.





What number could Rosie have made?

Is there more than one possibility?



What mistake has Tiny made?

What is the correct answer?

Would you round to the nearest 10, 100 or 1,000?

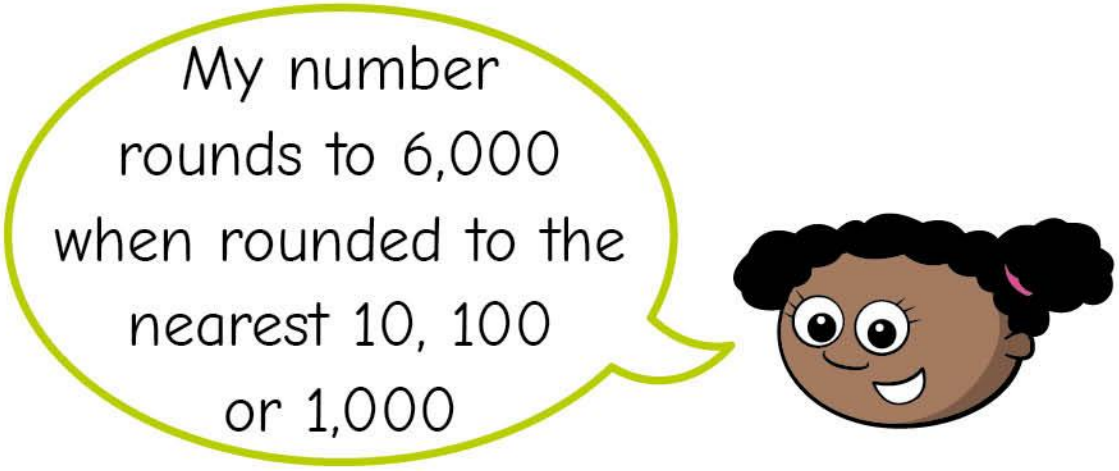
number of people at a football match

number of children at a school

number of coins in a jar

Whitney puts some counters on a place value chart to make a number.

Th	H	T	O



What could Whitney's number be?

What must Whitney's number be if she uses exactly 30 counters?