

Lesson 8 – Place Value Charts

NC Objective:

Identify, represent and estimate numbers using different representations including the number line.

Resources needed:

Laminated Place Value Charts
Place Value Counters/ Counters
Differentiated Worksheets

Vocabulary:

Place value, place value columns.

Children should formally present their work in the correct place value columns to help their understanding of place value. It is important for children to use concrete, pictorial and abstract representations in their place value chart. They will identify numbers represented in place value charts and draw base ten and place value counters to represent given numbers.

Key Questions:

How many tens are there? How many ones are there? What is different about using Base 10 to using place value counters? Can you write any other number sentences about the place value chart?



Working Towards

Place Value Charts

What numbers are represented?

Tens	Ones
2 tens	5 ones
4 tens	9 ones

Draw base ten to represent the numbers

Tens	Ones
2	5
4	9

Draw place value counters to represent the numbers

Tens	Ones
1	2
3	3

Children on this sheet have rows below their charts to help them understand how many tens and ones are in the numbers.



Working Within

Place Value Charts

What numbers are represented?

Tens	Ones
1 ten	3 ones
7 tens	5 ones

Draw base ten to represent the numbers

Tens	Ones
13	
75	

Draw place value counters to represent the numbers

Tens	Ones
66	
17	

Children on this sheet have basic place value charts to complete.



Greater Depth

Place Value Charts

What numbers are represented?

Tens	Ones
1 ten	3 ones
7 tens	5 ones

Draw a mix of base ten and place value counters in each of the boxes to represent the numbers

Tens	Ones
13	
75	

Draw place value counters to represent the numbers

Tens	Ones
66	
17	

Children on this sheet use a mix of equipment in their place value charts.

Reasoning & Problem Solving

Place Value Charts

Reasoning & Problem Solving

These 2 digit numbers have the same amount of tens and ones.

44 88

Do you agree? Use a place value chart to show this.

How many more can you think of?

Tens	Ones

Do both place value charts show the same value?

Explain your answer.

A

Tens	Ones
4 tens	4 ones

B

Tens	Ones
4 tens	8 ones

Children investigate tens and ones with a given example. They focus on multiples of ten to answer the reasoning task.

Place Value Charts

Reasoning & Problem Solving

How many two digit numbers can you make that have the same number of tens and ones?

Show each one on a place value chart.

Tens	Ones

Do both place value charts show the same value?

A

Tens	Ones
4 tens	4 ones

B

Tens	Ones
4 tens	8 ones

Children investigate tens and ones. They focus on tens and ones to answer the reasoning task.

Place Value Charts

Reasoning & Problem Solving

There are 6 two-digit numbers with the same amount of tens and ones.

Is the statement true or false? Explain how you know.

Tens	Ones

Do both place value charts show the same value?

A

Tens	Ones
4 tens	4 ones

B

Tens	Ones
4 tens	8 ones

Children investigate tens and ones. They focus on tens and ones with more complex partitioning to answer the reasoning tasks.



What numbers are represented?

Tens	Ones

Tens	Ones

Tens	Ones

Tens	Ones

Draw **base ten** to represent the numbers.

Tens	Ones
2	5

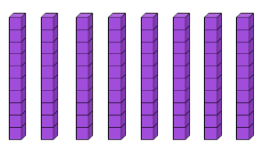
Tens	Ones
4	9

Draw **place value counters** to represent the numbers.

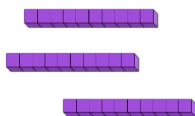
Tens	Ones
1	2

Tens	Ones
3	3

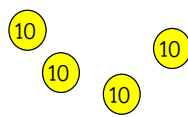
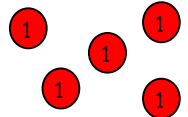
What numbers are represented?

Tens	Ones
	
8	4

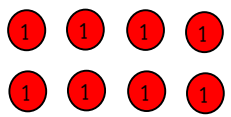
84

Tens	Ones
	
3	3

33

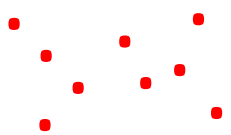
Tens	Ones
	
4	5

45

Tens	Ones
	
1	8

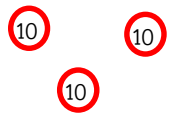
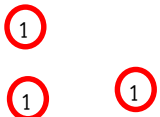
18Draw **base ten** to represent the numbers.

Tens	Ones
	
2	5

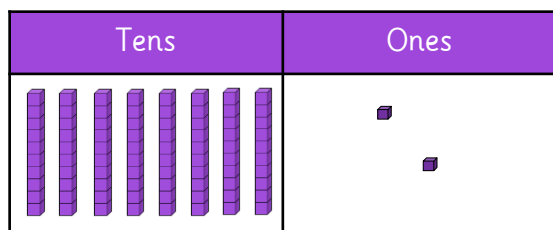
Tens	Ones
	
4	9

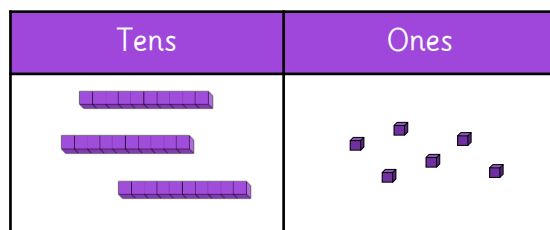
Draw **place value counters** to represent the numbers.

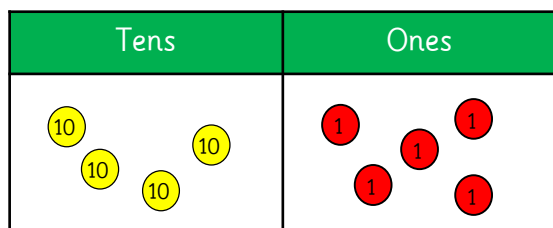
Tens	Ones
	
1	2

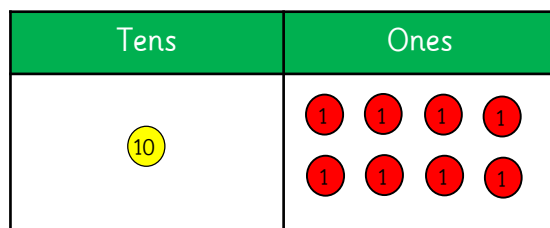
Tens	Ones
	
3	3

What numbers are represented?

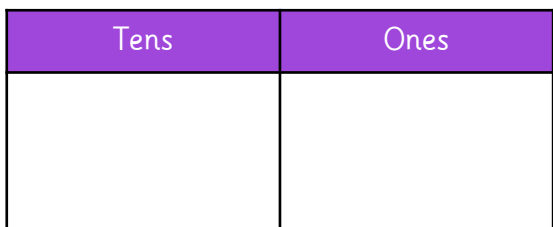








Draw **base ten** to represent the numbers.

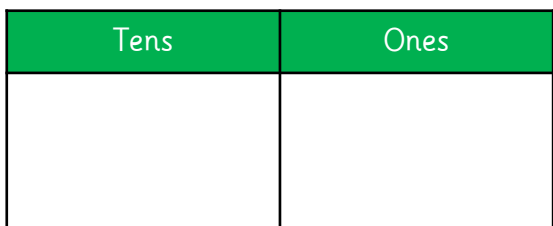


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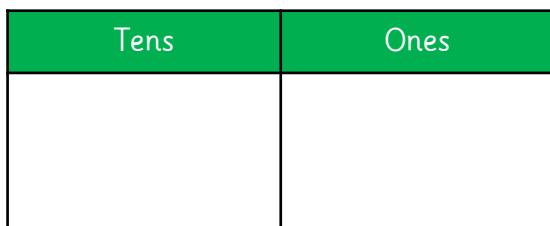


75

Draw **place value counters** to represent the numbers.

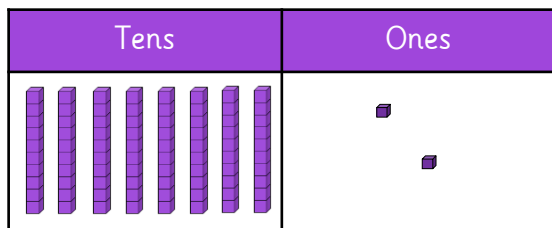


66

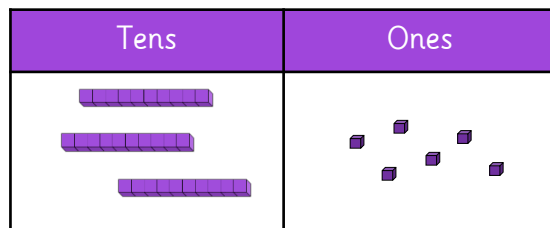


17

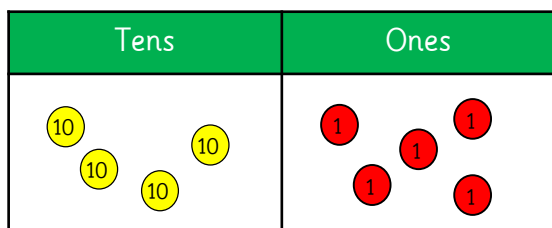
What numbers are represented?



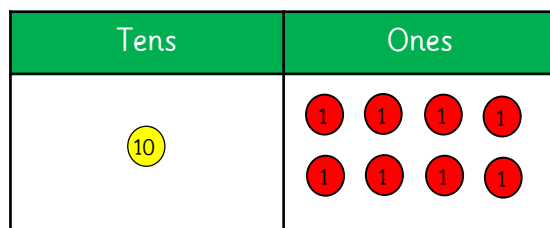
82



36

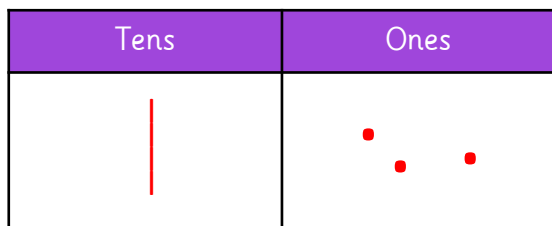


45

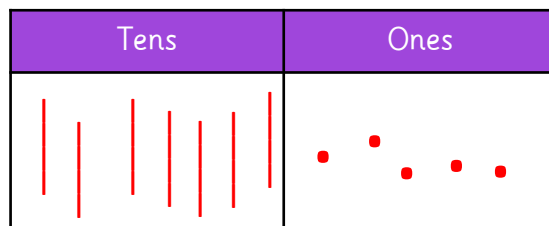


18

Draw **base ten** to represent the numbers.

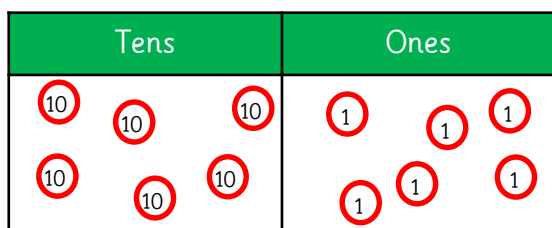


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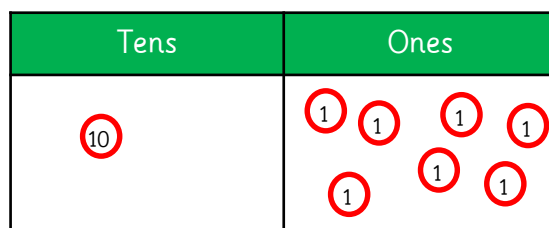


75

Draw **place value counters** to represent the numbers.



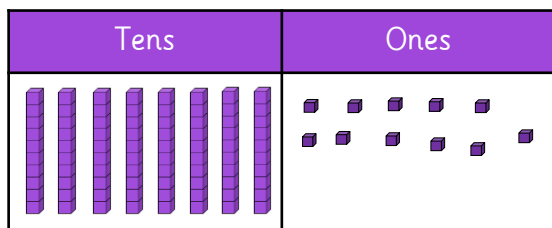
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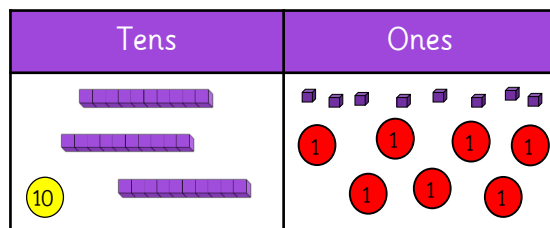


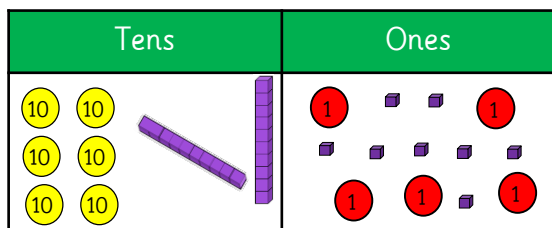
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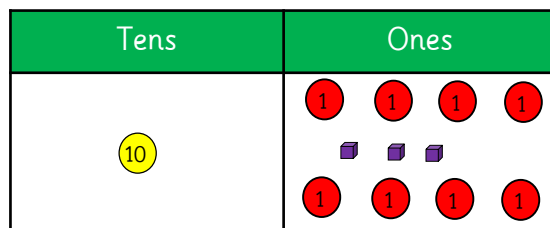


What numbers are represented?

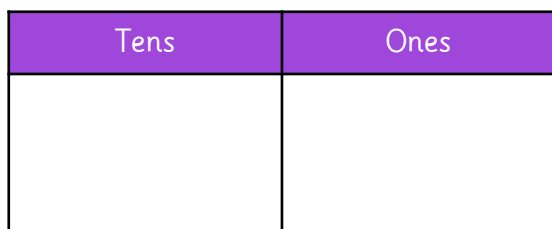




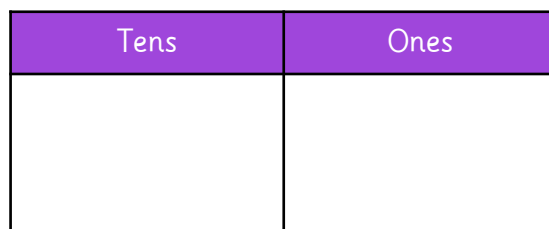




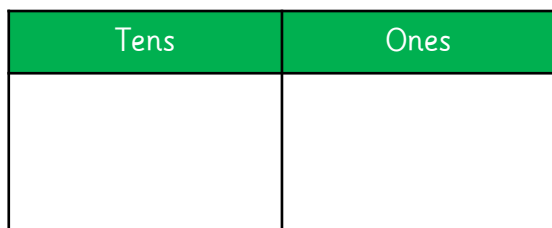
Draw a mix of **base ten** and **place value** counters in each of the boxes to represent the numbers.



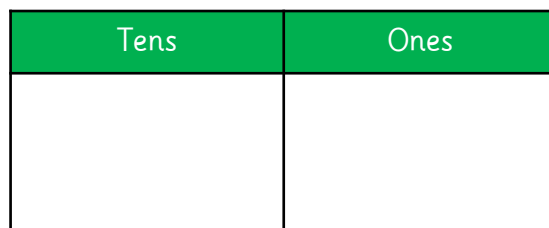
13



75



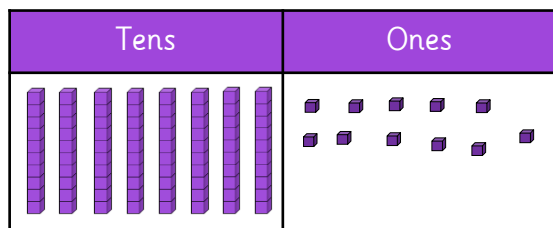
66



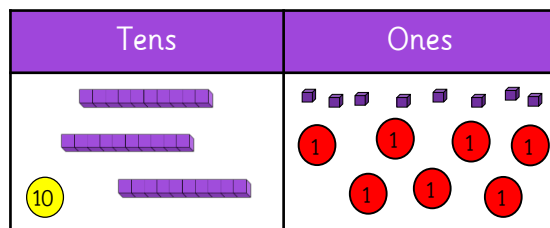
17



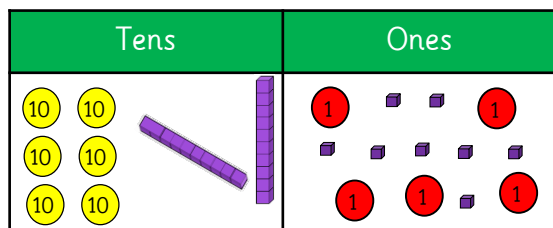
What numbers are represented?



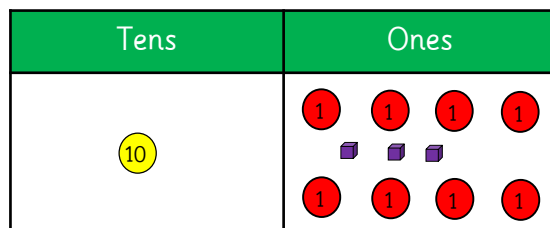
91



55



93

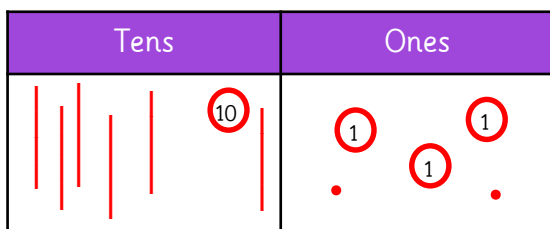


21

Draw a mix of **base ten** and place value counters in each of the boxes to represent the numbers.

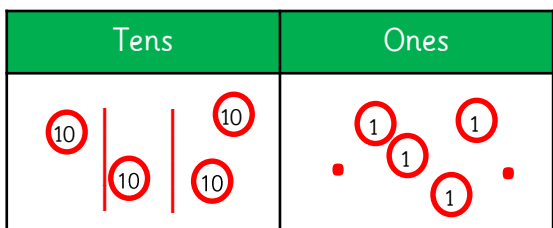


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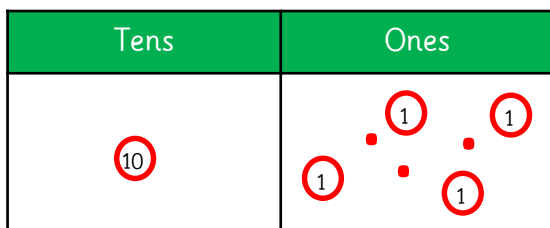


75

Examples



66



17

These 2 digit numbers have the same amount of tens and ones.

44

88

Do you agree? Use a place value chart to show this.

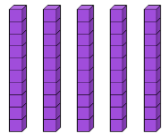
How many more can you think of?

Tens	Ones

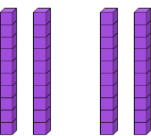
Do both place value charts show the same value?

Explain your answer.

A

Tens	Ones
	

B

Tens	Ones
	

These 2 digit numbers have the same amount of tens and ones.

44

88

Do you agree? Use a place value chart to show this.

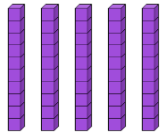
How many more can you think of?

Tens	Ones

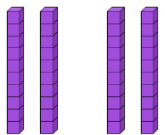
Do both place value charts show the same value?

Explain your answer.

A

Tens	Ones
	

B

Tens	Ones
	

These 2 digit numbers have the same amount of tens and ones.

44

88

Do you agree? Use a place value chart to show this.

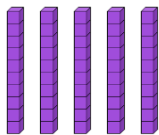
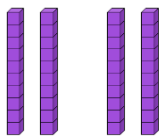
How many more can you think of?

Tens	Ones

There are 7 more possibilities:
11, 22, 33, 55, 66, 77, 99.

Do both place value charts show the same value?

Explain your answer.

A	Tens	Ones
		
B	Tens	Ones
		

Yes, they both have the same value of 50

$$5 \text{ tens} = 50$$

$$4 \text{ tens} + 10 \text{ ones} = 40 + 10 = 50$$

These 2 digit numbers have the same amount of tens and ones.

44

88

Do you agree? Use a place value chart to show this.

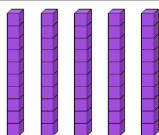
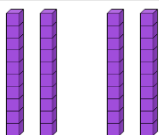
How many more can you think of?

Tens	Ones

There are 7 more possibilities:
11, 22, 33, 55, 66, 77, 99.

Do both place value charts show the same value?

Explain your answer.

A	Tens	Ones
		
B	Tens	Ones
		

Yes, they both have the same value of 50

$$5 \text{ tens} = 50$$

$$4 \text{ tens} + 10 \text{ ones} = 40 + 10 = 50$$

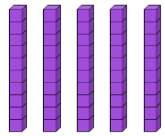
How many two digit numbers can you make that have the same number of tens and ones?

Show each one on a place value chart.

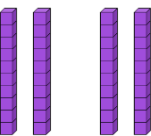
Tens	Ones

What's the same and what's different?

A

Tens	Ones
	

B

Tens	Ones
	

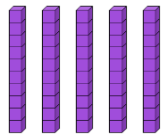
How many two digit numbers can you make that have the same number of tens and ones?

Show each one on a place value chart.

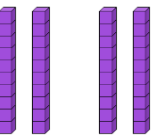
Tens	Ones

What's the same and what's different?

A

Tens	Ones
	

B

Tens	Ones
	



How many two digit numbers can you make that have the same number of tens and ones?
Show each one on a place value chart.

Tens	Ones

There are nine possibilities:
11, 22, 33, 44, 55, 66, 77, 88, 99.

What's the same and what's different?

A	Tens	Ones
B	Tens	Ones

Yes, they both have the same value of 53

$$50 + 3 = 53 \quad 40 + 13 = 53$$

Same: Both A and B show 53

Different: There are a different number of tens and ones in each place value chart.



How many two digit numbers can you make that have the same number of tens and ones?
Show each one on a place value chart.

Tens	Ones

There are nine possibilities:
11, 22, 33, 44, 55, 66, 77, 88, 99.

What's the same and what's different?

A	Tens	Ones
B	Tens	Ones

Yes, they both have the same value of 53

$$50 + 3 = 53 \quad 40 + 13 = 53$$

Same: Both A and B show 53

Different: There are a different number of tens and ones in each place value chart.

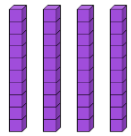
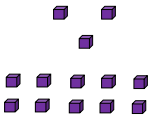
There are 6 two-digit numbers with the same amount of tens and ones.

Is the statement true or false?
Explain how you know.

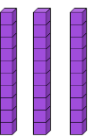
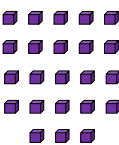
Tens	Ones

Do both place value charts show the same value?
Explain what's the same and what's different.

A

Tens	Ones
	

B

Tens	Ones
	

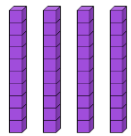
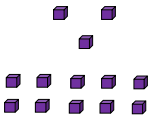
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Explain how you know.

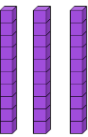
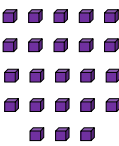
Tens	Ones

Do both place value charts show the same value?
Explain what's the same and what's different.

A

Tens	Ones
	

B

Tens	Ones
	



There are 6 two-digit numbers with the same amount of tens and ones.

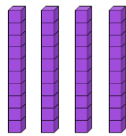
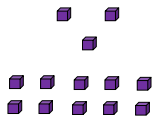
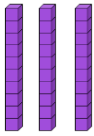
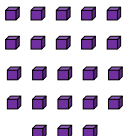
It is false. There are nine possibilities:
11, 22, 33, 44, 55, 66, 77, 88, 99.

Is the statement true or false?
Explain how you know.

Tens	Ones

Do both place value charts show the same value?

Explain what's the same and what's different.

	Tens	Ones
A		
B		

Yes, they both have the same value of 53

$$50 + 3 = 53 \quad 30 + 23 = 53$$

Same: Both A and B show 53

Different: There are a different number of tens and ones in each place value chart.



There are 6 two-digit numbers with the same amount of tens and ones.

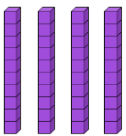
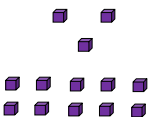
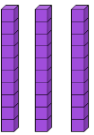
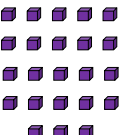
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Explain how you know.

Tens	Ones

Do both place value charts show the same value?

Explain what's the same and what's different.

	Tens	Ones
A		
B		

Yes, they both have the same value of 53

$$50 + 3 = 53 \quad 30 + 23 = 53$$

Same: Both A and B show 53

Different: There are a different number of tens and ones in each place value chart.