

Reasoning and Problem Solving

Step 5: 3-Digit Numbers and Tens

National Curriculum Objectives:

Mathematics Year 3: (3C1) [Add and subtract numbers mentally including three-digit number and tens](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Explain whether a comparison statement is true or false. Addition and subtraction of multiples of ten, up to 90, to and from a 3-digit number with no exchanging. Base 10 and numerals only with pictorial support.

Expected Explain whether a comparison statement is true or false. Addition and subtraction of multiples of ten, up to 90, to and from a 3-digit number with no exchanging. Numerals, words and a variety of pictorials.

Greater Depth Explain whether a comparison statement is true or false. Addition and subtraction of multiples of ten, up to 90, to and from a 3-digit number with no exchanging. Numerals, words and mixed pictorials within a number.

Questions 2, 5 and 8 (Reasoning)

Developing Prove if a statement is correct. Addition and subtraction of multiples of ten, up to 90, to and from a 3-digit number with no exchanging. Numerals only with pictorial support.

Expected Prove if a statement is correct. Addition and subtraction of multiples of ten, up to 90, to and from a 3-digit number with no exchanging. No pictorial support provided.

Greater Depth Prove if a statement is correct using known fact strategies. Addition and subtraction of multiples of ten, up to 90, to and from a 3-digit number with no exchanging. No pictorial support provided.

Questions 3, 6 and 9 (Problem Solving)

Developing Find three possible solutions when adding and subtracting multiples of ten, up to 90, to and from a 3-digit number with no exchanging. Base 10 and numerals only with pictorial support.

Expected Find three possible solutions when adding and subtracting multiples of ten, up to 90, to and from a 3-digit number with no exchanging. No pictorial support provided.

Greater Depth Find three possible solutions when adding and subtracting multiples of ten, up to 90, to and from a 3-digit number with no exchanging. No pictorial support or operation provided.

More [Year 3 Addition and Subtraction](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

3-Digit Numbers and Tens

3-Digit Numbers and Tens

1a. True or false? Explain your answer.

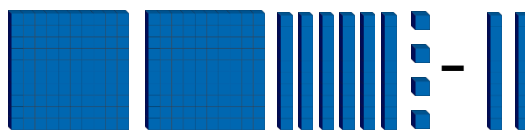


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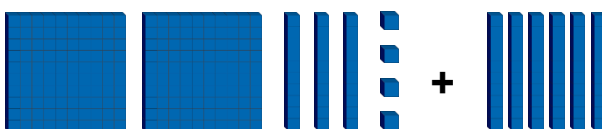


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1b. True or false? Explain your answer.

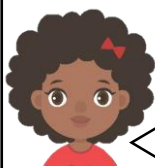
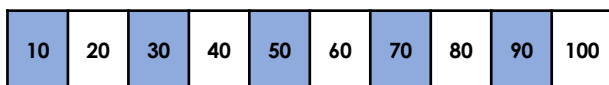


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2a. Shabana says,



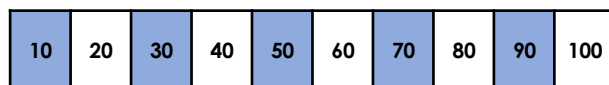
To solve $425 + 60$,
I can count on in tens.

Is she correct?
Convince me.



R

2b. Jago says,



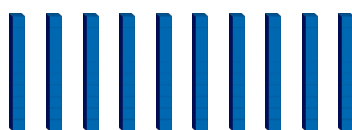
To solve $308 + 40$,
I can count back in tens.

Is he correct?
Convince me.



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3a. Find three different ways to complete each calculation below.



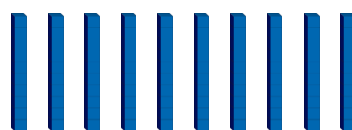
$$663 + \square 0 = 6 \square 3$$

$$758 + \square 0 = 7 \square 8$$



PS

3b. Find three different ways to complete each calculation below.



$$452 + \square 0 = 4 \square 2$$

$$847 + \square 0 = 8 \square 7$$

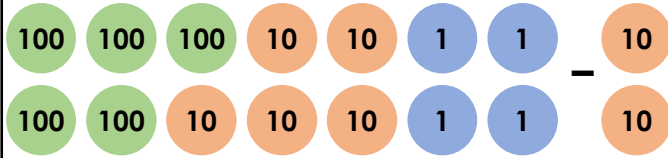


PS

3-Digit Numbers and Tens

3-Digit Numbers and Tens

4a. True or false? Explain your answer.



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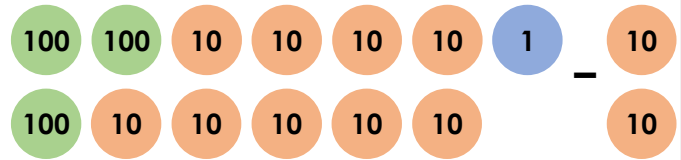


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4b. True or false? Explain your answer.

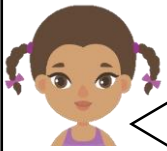


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5a. Evie says,



To solve two hundred and eighty-seven subtract fifty, I can count on in tens.

Is she correct?
Convince me.



R

5b. Sanjay says,



To solve four hundred and sixty-eight subtract sixty, I don't need to count back in tens.

Is he correct?
Convince me.



R

6a. Find three different ways to complete each calculation below.

$$849 + \square 0 = 8 \square 9$$

$$462 - \square 0 = 4 \square 2$$



PS

6b. Find three different ways to complete each calculation below.

$$536 - \square 0 = 5 \square 6$$

$$957 + \square 0 = 9 \square 7$$

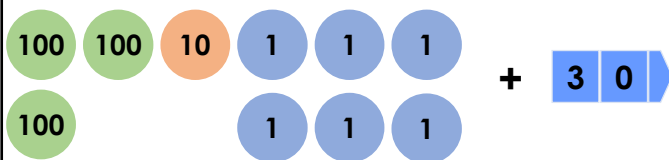


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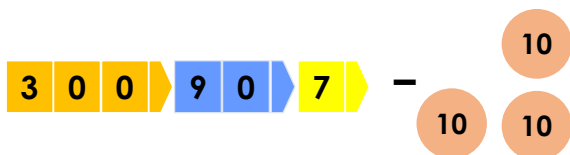
3-Digit Numbers and Tens

3-Digit Numbers and Tens

7a. True or false? Explain your answer.

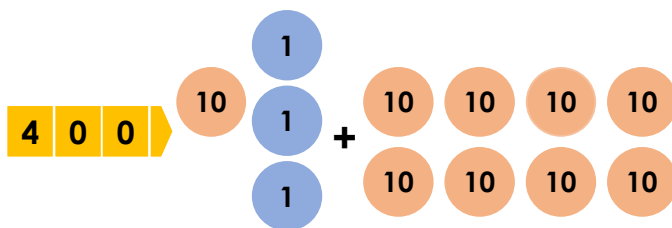


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7b. True or false? Explain your answer.



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8a. Jasmine says,



To solve $859 - 30$, I can use 5 subtract 3 to help me.

Is she correct?
Convince me.



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8b. Laurence says,



To solve $537 + 60$, I can use 5 add 6 to help me.

Is he correct?
Convince me.



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9a. Find three different ways to complete each calculation below.

$$957 \square \square 0 = 9 \square 7$$

$$861 \square \square 0 = 8 \square 1$$



PS

9b. Find three different ways to complete each calculation below.

$$648 \square \square 0 = 6 \square 8$$

$$555 \square \square 0 = 5 \square 5$$



PS

Reasoning and Problem Solving 3-Digit Numbers and Tens

Developing

1a. False, $142 - 20 = 122$ which is less than $122 + 40 = 162$.

2a. She is correct because she can count on in tens 6 times from 425.

3a. Various answers, for example:

$$663 + \underline{30} = 6\underline{9}3 \text{ and } 758 + \underline{20} = 7\underline{7}8$$

Expected

4a. False, $554 - 20 = 534$ which is less than $524 + 30 = 554$.

5a. She is incorrect because it is a subtraction calculation, so she should count back in tens.

6a. Various answers, for example:

$$849 + \underline{50} = 8\underline{9}9 \text{ and } 462 - \underline{30} = 4\underline{3}2$$

Greater Depth

7a. False, $316 + 30 = 346$ which is less than $397 - 30 = 367$.

8a. She is correct because the calculation has 5 tens and 3 tens, so $5 - 3$ is a related fact.

9a. Various answers, for example:

$$957 + \underline{40} = 9\underline{9}7 \text{ and } 861 + \underline{30} = 8\underline{9}1$$

Reasoning and Problem Solving 3-Digit Numbers and Tens

Developing

1b. True, $264 - 20 = 244$ which is less than $234 + 60 = 294$.

2b. He is incorrect because he is solving an addition calculation, so he will need to count on rather than count back.

3b. Various answers, for example:

$$452 + \underline{10} = 4\underline{6}2 \text{ and } 847 + \underline{40} = 8\underline{8}7$$

Expected

4b. False, $351 + 10 = 361$ which is less than $391 - 20 = 371$.

5b. He is correct because in the sum $468 - 60$, the tens column shows $60 - 60$ so he can subtract all the tens without needing to count back in tens.

6b. Various answers, for example:

$$536 - \underline{30} = 5\underline{0}6 \text{ and } 957 + \underline{40} = 9\underline{9}7$$

Greater Depth

7b. True, $413 + 80 = 493$ is greater than $477 - 20 = 457$.

8b. He is incorrect because $5 + 6$ is not a related fact because this calculation has 3 tens and 6 tens, 5 is in the hundreds column.

9b. Various answers, for example:

$$648 + \underline{10} = 6\underline{5}8 \text{ and } 555 - \underline{40} = 5\underline{1}5$$