

# Reasoning and Problem Solving

## Step 12: Subtract a 2-Digit Number from a 3-Digit Number

### National Curriculum Objectives:

Mathematics Year 3: (3C2) [Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction](#)

Mathematics Year 3: (3C4) [Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction](#)

### Differentiation:

Questions 1, 4 and 7 (Problem Solving)

**Developing** Find the missing values by subtracting a 2-digit number from a 3-digit number with some exchanging. Using Base 10 and numerals only. Pictorial support and scaffolding provided. Using Base 10 where an exchange takes place.

**Expected** Find the missing values by subtracting a 2-digit number from a 3-digit number with exchanging. Using numerals only.

**Greater Depth** Find the missing values by subtracting two 2-digit numbers from a 3-digit number with exchanging. Using numerals only.

Questions 2, 5 and 8 (Reasoning)

**Developing** Explain who has correctly subtracted a 2-digit number from a 3-digit number with some exchanging. Using Base 10 and numerals only. Pictorial support and scaffolding provided. Using Base 10 where an exchange takes place.

**Expected** Explain who has correctly subtracted a 2-digit number from a 3-digit number with exchanging. Using numerals and pictorial representations.

**Greater Depth** Explain who has correctly subtracted a 2-digit number from a 3-digit number with exchanging. Using numerals and mixed representations within a question.

Questions 3, 6 and 9 (Reasoning)

**Developing** Identify and explain the mistake in a column subtraction using knowledge of subtracting a 2-digit number from a 3-digit number with some exchanging. Using numerals only.

**Expected** Identify and explain the mistake using knowledge of subtracting a 2-digit number from a 3-digit number with exchanging. Using numerals only.

**Greater Depth** Identify and explain the mistake using knowledge of subtracting a 2-digit number from a 3-digit number with exchanging. Using numerals with multiple exchanges.


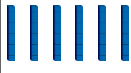

More [Year 3 Addition and Subtraction](#) resources.

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

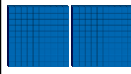


## Subtract a 2-Digit Number from a 3-Digit Number

1a. Use the column method to find the missing values.

$$162 \Rightarrow - 41 \Rightarrow A$$

H	T	O
		

$$241 \Rightarrow - 35 \Rightarrow B$$

H	T	O
		

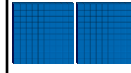




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

## Subtract a 2-Digit Number from a 3-Digit Number

1b. Use the column method to find the missing values.

$$253 \Rightarrow - 32 \Rightarrow A$$

H	T	O
		

$$108 \Rightarrow - 25 \Rightarrow B$$

H	T	O
		



PS

2a. Carly and Marvin work out the calculation  $183 - 33$ .

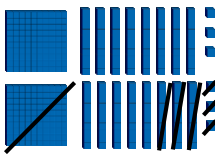


Carly

I have done

	1	8	3
-		3	3
<hr/>			

I have done



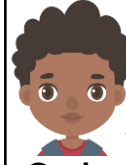
Marvin

Who is correct? Explain how you know.



R

2b. Carter and Izzy work out the calculation  $166 - 33$ .



Carter

I have done

		3	3
-	1	6	6
<hr/>			

I have done



Izzy

Who is correct? Explain how you know.



R

3a. Lewis has completed the following subtraction:

	H	T	O
	4	5	8
-		5	4
<hr/>			
	4	0	4
<hr/>			

Is he correct? Explain how you know.



R

3b. Angelica has completed the following subtraction:

	H	T	O
	5	5	7
-		3	4
<hr/>			
	5	8	3
<hr/>			

Is she correct? Explain how you know.



R

**Subtract a 2-Digit Number from a 3-Digit Number**

**Subtract a 2-Digit Number from a 3-Digit Number**

4a. Use the column method to find the missing values.

$$\boxed{383} \Rightarrow \boxed{- 75} \Rightarrow \boxed{A}$$

$$\boxed{B} \Rightarrow \boxed{+ 57} \Rightarrow \boxed{529}$$

$$\boxed{628} \Rightarrow \boxed{- 64} \Rightarrow \boxed{C}$$



PS

4b. Use the column method to find the missing values.

$$\boxed{581} \Rightarrow \boxed{- 38} \Rightarrow \boxed{A}$$

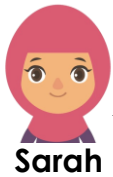
$$\boxed{B} \Rightarrow \boxed{+ 74} \Rightarrow \boxed{328}$$

$$\boxed{109} \Rightarrow \boxed{- 42} \Rightarrow \boxed{C}$$



PS

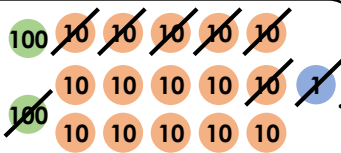
5a. Sarah and Kris work out the calculation  $251 - 61$ .



I have done

	<sup>1</sup> 2	<sup>1</sup> 5	1
-		6	1
<hr/>			

I have done



Who is correct? Explain how you know.



R

5b. Bobby and Valerie work out the calculation  $424 - 74$ .



I have done

	<sup>3</sup> 4	<sup>1</sup> 2	4
-		7	4
<hr/>			

I have done



Who is correct? Explain how you know.



R

6a. Reuben has completed the following subtraction:

	H	T	O
	2	7	2
-		5	4
<hr/>			
	2	2	2
<hr/>			

Is he correct? Explain how you know.



R

6b. Tilly has completed the following subtraction:

	H	T	O
	5	0	7
-		5	4
<hr/>			
	5	5	3
<hr/>			

Is she correct? Explain how you know.



R

**Subtract a 2-Digit Number from a 3-Digit Number**

**Subtract a 2-Digit Number from a 3-Digit Number**

7a. Use the column method to find the missing values.

383  $\Rightarrow$  75 less  $\Rightarrow$  21 less  $\Rightarrow$  A

B  $\Rightarrow$  57 more  $\Rightarrow$  plus 36  $\Rightarrow$  529

629  $\Rightarrow$  minus 86  $\Rightarrow$  30 less  $\Rightarrow$  C



R

7b. Use the column method to find the missing values.

290  $\Rightarrow$  25 less  $\Rightarrow$  29 less  $\Rightarrow$  A

B  $\Rightarrow$  84 more  $\Rightarrow$  plus 69  $\Rightarrow$  199

628  $\Rightarrow$  minus 64  $\Rightarrow$  48 less  $\Rightarrow$  C



PS

8a. Tyson and Jess work out the calculation  $513 - 34$ .

Tyson: I have done 

	<del>4</del> 5	<del>0</del> 1	<del>1</del> 3
-		3	4
<hr/>			

Jess: I have done 

100	10	10	10	10	10	10	10	10	10	10	10
100	10	10	10	10	10	10	10	10	10	10	10
100	10	10	10	10	10	10	10	10	10	10	10

Who is correct? Explain how you know.



R

8b. Lucas and Bella work out the calculation  $252 - 98$ .

Lucas: I have done 

	<del>1</del> 2	<del>14</del> 5	<del>1</del> 2
-		9	8
<hr/>			

Bella: I have done 

100	10	1	1
100	10	1	1
100	10	1	1

Who is correct? Explain how you know.



PS

9a. Sam has completed the following subtraction:

	H	T	O
	<del>3</del> 4	0	<del>1</del> 2
-		5	4
<hr/>			
	2	5	8
<hr/>			

Is he correct? Explain how you know.



R

9b. Kirsten has completed the following subtraction:

	H	T	O
	5	<del>0</del> 1	<del>1</del> 3
-		5	4
<hr/>			
	5	5	9
<hr/>			

Is she correct? Explain how you know.



R

## Reasoning and Problem Solving Subtract a 2-Digit Number from a 3-Digit Number

### Developing

1a. A: 121, B: 206

2a. Carly is correct. She has written the calculation correctly. Marvin is incorrect. He has subtracted 133 instead of 33.

3a. Lewis is correct because he has subtracted the bottom number from the top number and there isn't an exchange.  
 $458 - 54 = 404$ .

### Expected

4a. A: 308, B: 472, C: 564

5a. They are both correct because they have used or written the correct amount and have subtracted and exchanged correctly.

6a. Reuben is incorrect because he has not exchanged a ten for 10 ones.  
 $272 - 54 = 218$ .

### Greater Depth

7a. A: 287, B: 436, C: 513

8a. Neither are correct. Tyson is incorrect because he has not exchanged the hundreds into the tens column. Jess is incorrect because she does not have enough counters to make 513 and she has subtracted 43 instead of 34.

9a. Sam is incorrect as he has not exchanged in the tens column.  
 $402 - 54 = 348$ .

## Reasoning and Problem Solving Subtract a 2-Digit Number from a 3-Digit Number

### Developing

1b. A: 221, B: 83

2b. Izzy is correct because she used the correct amount of Base 10 and has subtracted the correct amount. Carter is incorrect because he needs to have the largest number on top.

3b. Angelica is incorrect because she has added in the tens column.  $557 - 34 = 523$ .

### Expected

4b. A: 543, B: 254, C: 67

5b. Bobby is correct because he has written the correct amount and has subtracted and exchanged correctly. Valerie is incorrect because she has not exchanged a hundred for 10 tens.

6b. Tilly is incorrect because she has not subtracted the tens correctly.  
 $507 - 54 = 453$ .

### Greater Depth

7b. A: 236, B: 46, C: 516

8b. Lucas is correct because he has written the correct amount and has subtracted and exchanged correctly. Bella is incorrect because she has exchanged a ten for nine ones and has not exchanged a hundred for 10 tens.

9b. Kirsten is incorrect as she has not exchanged a ten for 10 ones or a hundred for 10 tens.  $513 - 54 = 459$ .