



Friday 15<sup>th</sup> May. Y5

### Reasoning and Problem Solving Step 1: Adding Decimals Within one

The questions in your mini-test today will help you to assess your understanding. There are particular developing questions. If you get the right answers here you have begun to understand the concept.

If you get expected level answers right, then you have a secure understanding.

If you are correct on greater depth questions then you are achieving a higher than age-expected level of understanding. See how you do!

<p><b>1a. Check what Joanne has said. Is she correct? Explain your answer.</b></p> <p>When I add 0.1 to 0.09, my answer is 0.91.</p>  <p><b>D</b></p>	<p><b>1b. Check what Rowan has said. Is he correct? Explain your answer.</b></p> <p>When I add 0.1 to 0.05, my answer will be 0.6.</p>  <p><b>D</b></p>																								
<p><b>2a. Geoff has taken a test. Mark his answers and write any corrections.</b></p> <table border="1"><thead><tr><th></th><th>corrections</th></tr></thead><tbody><tr><td><math>0.83 + 0.01 = 0.09</math></td><td></td></tr><tr><td><math>0.62 + 0.26 = 8.8</math></td><td></td></tr><tr><td><math>0.34 + 0.62 = 0.96</math></td><td></td></tr><tr><td><math>0.53 + 0.04 = 0.93</math></td><td></td></tr><tr><td><math>0.84 + 0.05 = 0.09</math></td><td></td></tr></tbody></table> <p><b>D</b></p>		corrections	$0.83 + 0.01 = 0.09$		$0.62 + 0.26 = 8.8$		$0.34 + 0.62 = 0.96$		$0.53 + 0.04 = 0.93$		$0.84 + 0.05 = 0.09$		<p><b>2b. Martha has taken a test. Mark her answers and write any corrections.</b></p> <table border="1"><thead><tr><th></th><th>corrections</th></tr></thead><tbody><tr><td><math>0.03 + 0.46 = 0.53</math></td><td></td></tr><tr><td><math>0.15 + 0.4 = 0.2</math></td><td></td></tr><tr><td><math>0.04 + 0.07 = 0.74</math></td><td></td></tr><tr><td><math>0.37 + 0.42 = 0.79</math></td><td></td></tr><tr><td><math>0.85 + 0.01 = 0.95</math></td><td></td></tr></tbody></table> <p><b>D</b></p>		corrections	$0.03 + 0.46 = 0.53$		$0.15 + 0.4 = 0.2$		$0.04 + 0.07 = 0.74$		$0.37 + 0.42 = 0.79$		$0.85 + 0.01 = 0.95$	
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3a. Which digits from 5 to 9 could you put in the empty spaces to make this statement correct?

$$0.63 + 0.2 \square = 0.8 \square$$



PS

3b. Which digits from 0 to 5 could you put in the empty spaces to make this statement correct?

$$0.23 + 0. \square 4 = 0. \square 7$$



PS

4a. Check what Henri has said. Is he correct? Explain your answer.

You need to work from tenths to thousandths when you're adding decimals.



R

4b. Check what Grace has said. Is she correct? Explain your answer.

If you add two decimals your answer will never be more than 1.



R

5a. Evie has taken a test. Mark her answers and write any corrections.

	corrections
$0.132 + 0.828 = 0.951$	
$0.703 + 0.07 = 0.71$	
$0.824 + 0.011 = 0.835$	
$0.351 + 0.039 = 0.381$	
$0.646 + 0.341 = 0.987$	



PS

5b. Martha has taken a test. Mark her answers and write any corrections.

	corrections
$0.971 + 0.009 = 0.98$	
$0.76 + 0.073 = 1.49$	
$0.748 + 0.143 = 0.881$	
$0.628 + 0.304 = 0.912$	
$0.205 + 0.198 = 0.303$	



PS



PS

6a. Which digits could you put in the empty spaces to make these statements correct?

$$0.454 + 0.2 \square = 0.7 \square 4$$

$$0.19 \square + 0.2 \square = 0.451$$



PS



PS

6b. Which digits could you put in the empty spaces to make these statements correct?

$$0.133 + 0.2 \square = 0.4 \square 3$$

$$0.7 \square + 0.28 \square = 0.999$$



PS

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Reasoning and Problem Solving – Adding Decimals Within 1 – Year 5 Expected

7a. Check what Amanyia has said. Is she correct? If not, why not?

The sum of two numbers with 3 decimal places will always have 3 decimal places too.



R

7b. Check what Danny has said. Is she correct? If not, why not?

The sum of two decimals larger than 0.5 will always be more than one.



R

8a. Martin has taken a test. Mark his answers and write any corrections.

	corrections
$0.548 + 0.354 = 0.902$	
$0.003 + 0.879 = 0.909$	
$0.172 + 0.336 = 0.409$	
$0.626 + 0.275 = 0.901$	
$0.743 + 0.198 = 0.931$	



PS

8b. Leah has taken a test. Mark her answers and write any corrections.

	corrections
$0.484 + 0.159 = 0.534$	
$0.263 + 0.009 = 0.272$	
$0.152 + 0.709 = 0.811$	
$0.621 + 0.178 = 0.899$	
$0.15 + 0.029 = 0.044$	



PS



PS



PS

9a. Which digits could you put in the empty spaces to make this statement balance?

$$0.4 \square 4 + 0.2 \square 8 = 0.126 + 0.616$$



PS



PS

9b. Which digits could you put in the empty spaces to make this statement balance?

$$0.79 \square + 0.1 \square 3 = 0.528 + 0.417$$

Now scroll down

For answers...

# ANSWERS

## Developing

1a. Joanne is incorrect. She has added the two digits but not realised the 9 is 9 hundredths and the 1 is 1 tenth so the answer should be 0.19.

2a.

	corrections
$0.83 + 0.01 = 0.09$	0.84
$0.62 + 0.24 = 8.8$	0.88
$0.34 + 0.62 = 0.96$	✓
$0.53 + 0.04 = 0.93$	0.57
$0.84 + 0.05 = 0.09$	0.89

3a. 5,8; 6,9

## Expected

4a. Henri is incorrect. You work from the right to left, adding thousandths first, then hundredths and then tenths.

5a.

	corrections
$0.132 + 0.828 = 0.951$	0.96
$0.703 + 0.07 = 0.71$	0.773
$0.824 + 0.011 = 0.835$	✓
$0.351 + 0.039 = 0.381$	0.39
$0.646 + 0.341 = 0.987$	✓

6a. 5,0; 6,1; 7,2; 8,3; 9,4 and 1,6

## Developing

1b. Rowan is incorrect. He has added the two digits but not realised that the 5 is 5 hundredths and the 1 is 1 tenth so the answer should be 0.15.

2b.

	corrections
$0.03 + 0.44 = 0.53$	0.49
$0.15 + 0.4 = 0.2$	0.55
$0.04 + 0.07 = 0.74$	0.11
$0.37 + 0.42 = 0.79$	✓
$0.85 + 0.01 = 0.95$	0.86

3b. 0,2; 1,3; 2,4; 3,5; 4,6; 5,7

## Expected

4b. Grace is incorrect. If the value in the tenths column is greater than 9, then you need to exchange and carry over into the ones column, so your answer would be 1 or more.

5b.

	corrections
$0.971 + 0.009 = 0.98$	✓
$0.76 + 0.073 = 1.49$	0.833
$0.748 + 0.143 = 0.881$	0.891
$0.628 + 0.304 = 0.912$	0.932
$0.205 + 0.198 = 0.303$	0.403

6b. 7,0; 8,1; 9,2 and 1,9

## Greater Depth

7a. Amaya is incorrect. If the sum of the thousandths digits is equal to 10 thousandths, then this would be exchanged for 1 hundredth and there would be no need for the 0 (place holder) in the thousandths column if both numbers were 3 decimal places. Therefore the answer would have two decimal places.

8a.

	corrections
$0.548 + 0.354 = 0.902$	✓
$0.003 + 0.879 = 0.909$	0.882
$0.172 + 0.336 = 0.409$	0.508
$0.624 + 0.275 = 0.901$	✓
$0.743 + 0.198 = 0.931$	0.941

9a. 4,9; 5,8; 6,7; 7,6; 8,5; 9,4

## Greater Depth

7b. Danny is correct. This is because the sum of  $0.5 + 0.5 = 1$  so if we increase either of the numbers, even by one thousandth, the number will always be larger than 1. For example:  $0.5 + 0.5001 = 1.001$

8b.

	corrections
$0.484 + 0.159 = 0.534$	0.643
$0.263 + 0.009 = 0.272$	✓
$0.152 + 0.709 = 0.811$	0.861
$0.621 + 0.178 = 0.899$	0.799
$0.15 + 0.029 = 0.044$	0.179

9b. 2,5