

# Adding & Subtracting Decimals

## Column method

$$23.36 + 11.472 = 34.832$$

	2	3	•	3	6	0
+	1	1	•	4	7	2
	<b>3</b>	<b>4</b>	•	<b>8</b>	<b>3</b>	<b>2</b>
			1			

$$28.433 - 15.26 = 13.173$$

	2	8	•	<del>4</del> <sup>3</sup>	<sup>1</sup> 3	3
-	1	5	•	2	6	0
	<b>1</b>	<b>3</b>	•	<b>1</b>	<b>7</b>	<b>3</b>

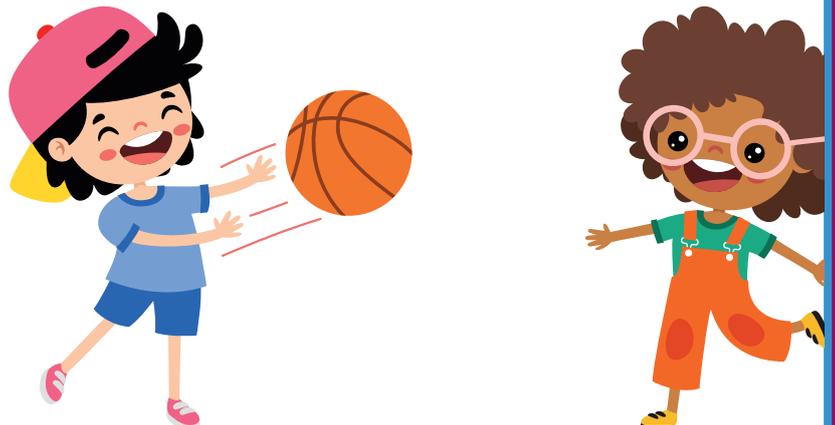
1. Use the column method to work out the answers to these calculations.

a)  $17.349 + 2.225 =$

			•			
+			•			
			•			

b)  $28.662 - 15.531 =$

			•			
-			•			
			•			



# Adding & Subtracting Decimals

## Number line method



$$18 \text{ cm} + 6.65 \text{ cm} = 24.65 \text{ cm}$$



$$27.5 \text{ km} - 11.3 \text{ km} = 16.2 \text{ km}$$



2. Use the number line method to work out the answer to each calculation.

a)  $23 \text{ cm} + 7.54 \text{ cm} =$

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b)  $15.7 \text{ km} - 5.3 \text{ km} =$

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# Adding & Subtracting Decimals

## Mental method with jottings

$$8.4 \text{ kg} - 2.2 \text{ kg}$$

We know that  $84 - 22 = 62$

So,  $8.4 - 2.2 = 6.2$

$$8.4 \text{ kg} - 2.2 \text{ kg} = 6.2 \text{ kg}$$

$$7.82 \text{ m} + 5.16 \text{ m}$$

$$7 + 5 = 12$$

$$0.8 + 0.1 = 0.9$$

$$0.02 + 0.06 = 0.08$$

$$12 + 0.9 + 0.08 = 12.98 \text{ m}$$



3. Use a mental method, such as the ones shown above, to calculate the answer to each question.

a)  $7.6 \text{ kg} - 4.3 \text{ kg} =$

b)  $9.3 \text{ m} + 8.5 \text{ m} =$

4. On Sunday, Craig swam 25.4 m. On Monday, he swam 24.3 m.

a) Work out how far he swam in total using each of the three methods below.

Number line



Column method

			•		
+			•		
			•		

Mental method with jottings

# Adding & Subtracting Decimals

b) Which of the three methods did you think was the most efficient for this calculation?

.....

c) Explain your reasoning.

.....  
 .....



5. Hussein wants to buy a book that costs £7.38 and a toy car that costs £8.54. He has used the column method to calculate the total cost of the book and toy car.

		7	•	3	8	
+		8	•	5	4	
£	1	5	•	8	2	
				1		

a) What mistake has Hussein made?

.....  
 .....  
 .....  
 .....

b) Carry out the calculation correctly using the method you think will be most efficient.

6. For each of the calculations below, decide which method you think would be the most efficient. Then, solve each one using your chosen methods. Once you have finished, compare your methods with a partner and discuss the reasons for your choices.

a) $18 - 5.3$	b) $23.034 + 12.387$	c) $6.95 - 4.55$
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# Adding & Subtracting Decimals

## Answers

### Column method

$$23.36 + 11.472 = 34.832$$

	2	3	•	3	6	0
+	1	1	•	4	7	2
	<b>3</b>	<b>4</b>	•	<b>8</b>	<b>3</b>	<b>2</b>
				1		

$$28.433 - 15.26 = 13.173$$

	2	8	•	<del>4</del> <sup>3</sup>	<sup>1</sup> 3	3
-	1	5	•	2	6	0
	<b>1</b>	<b>3</b>	•	<b>1</b>	<b>7</b>	<b>3</b>

1. Use the column method to work out the answers to these calculations.

a)  $17.349 + 2.225 = 19.574$

	1	7	•	3	4	9
+		2	•	2	2	5
	1	9	•	5	7	4
				1		

b)  $28.662 - 15.531 = 13.131$

	2	8	•	6	6	2
-	1	5	•	5	3	1
	1	3	•	1	3	1



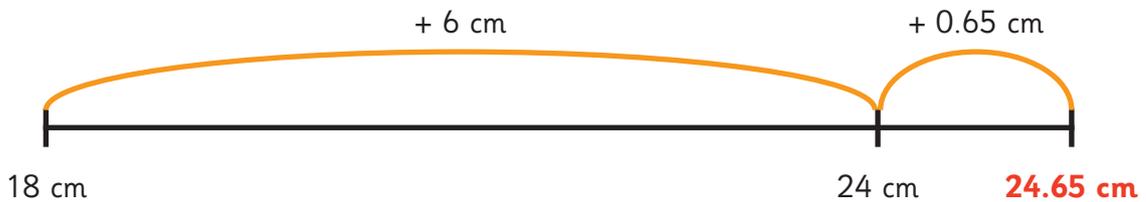
# Adding & Subtracting Decimals

## Answers

### Number line method



$$18 \text{ cm} + 6.65 \text{ cm} = 24.65 \text{ cm}$$



$$27.5 \text{ km} - 11.3 \text{ km} = 16.2 \text{ km}$$

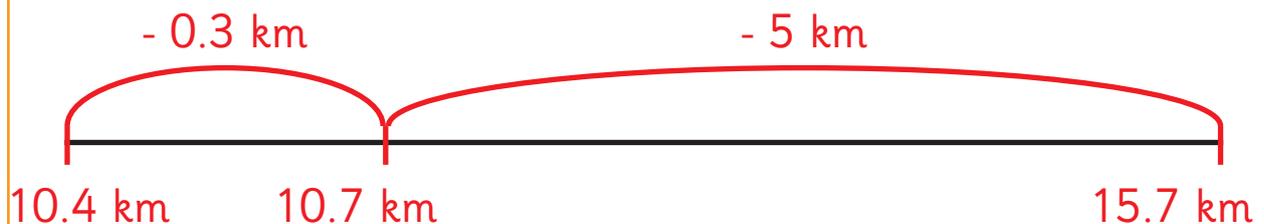


2. Use the number line method to work out the answer to each calculation.

a)  $23 \text{ cm} + 7.54 \text{ cm} = 30.54 \text{ cm}$



b)  $15.7 \text{ km} - 5.3 \text{ km} = 10.4 \text{ km}$



# Adding & Subtracting Decimals

## Answers

### Mental method with jottings

$$8.4 \text{ kg} - 2.2 \text{ kg}$$

We know that  $84 - 22 = 62$

So,  $8.4 - 2.2 = 6.2$

$$8.4 \text{ kg} - 2.2 \text{ kg} = 6.2 \text{ kg}$$

$$7.82 \text{ m} + 5.16 \text{ m}$$

$$7 + 5 = 12$$

$$0.8 + 0.1 = 0.9$$

$$0.02 + 0.06 = 0.08$$

$$12 + 0.9 + 0.08 = 12.98 \text{ m}$$



3.

Pupils may have used alternative mental methods to arrive at their answers.

Write the answer to each question.

a)  $7.6 \text{ kg} - 4.3 \text{ kg} =$

$$76 - 43 = 33$$

$$\text{So, } 7.6 - 4.3 = 3.3 \text{ kg}$$

b)  $9.3 \text{ m} + 8.5 \text{ m} =$

$$9 + 8 = 17$$

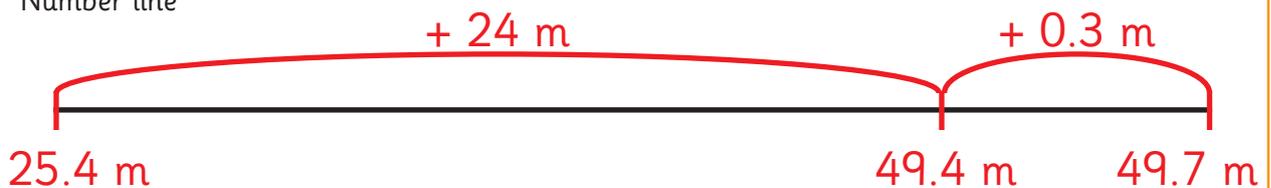
$$0.3 + 0.5 = 0.8$$

$$= 17.8 \text{ m}$$

4. On Sunday, Craig swam 25.4 m. On Monday, he swam 24.3 m.

a) Work out how far he swam in total using each of the three methods below.

Number line



Column method

	2	5	•	4		
+	2	4	•	3		
	4	9	•	7		

Mental method with jottings

Mental methods will vary.

$$49.7 \text{ m}$$

# Adding & Subtracting Decimals

## Answers

b) Which of the three methods did you think was the most efficient for this calculation?

Answers will vary.....

c) Explain your reasoning.

Answers will vary.....



5. Hussein wants to buy a book that costs £7.38 and a toy car that costs £8.54. He has used the column method to calculate the total cost of the book and toy car.

		7	•	3	8	
+		8	•	5	4	
£	1	5	•	8	2	
				1		

a) What mistake has Hussein made?

Hussein has forgotten to add the 1 tenth carried over from the hundredths column when he added the tenths together.....

b) Carry out the calculation correctly using the method you think will be most efficient.

Methods will vary — the correct answer is £15.92.

6. For each of the calculations below, decide which method you think would be the most efficient. Then, solve each one using your chosen methods. Once you have finished, compare your methods with a partner and discuss the reasons for your choices.

Methods will vary.

a)  $18 - 5.3$

$= 12.7$

b)  $23.034 + 12.387$

$= 35.421$

c)  $6.95 - 4.55$

$= 2.4$