



# THIRD SPACE LEARNING

Specialist 1-to-1 maths interventions  
and curriculum resources

## Rapid Reasoning

Year 5 | Weeks 25–36



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**Rapid Reasoning**

**Year 5 | Week 25**

This is the first week of the final term of *Rapid Reasoning*. We hope your children enjoyed the first 24 weeks of *Rapid Reasoning* in Year 5 and are ready to embark on the final 12 weeks.

This week, the questions within Rapid Reasoning will focus on decimal numbers.

The new Year 5 objectives which are a particular focus this week are:

- rounding decimals with two decimal places to the nearest whole number and to one decimal place
- reading, writing, ordering and comparing numbers with up to three decimal places
- solving problems involving number up to three decimal places.

As with previous weeks, other content from Year 5, which the children have met in previous weeks of *Rapid Reasoning*, will also feature this week.

**Q1** Samir writes down two decimal numbers.  
The difference between his numbers is 6.31.  
One of Samir's numbers is 8.23.

What could Samir's other number be?  
Give **TWO** possible answers.

and

2 marks

**Q2** Write the symbols  $<$ ,  $>$  or  $=$  to compare each of these decimal numbers.

75.15	<input type="text"/>	75.51
75.10	<input type="text"/>	75.1
71.1	<input type="text"/>	71.06
71.05	<input type="text"/>	71.5

2 marks

**Q3** Oakthorpe Academy has been given a donation of £5,460 by the PTA.  
The School Council decides to use £1,755 on buying some new computer equipment.  
The rest is split equally between five year groups so they can decide for themselves how to spend the money.

How much money will each year group have?

2 marks

- Q1** Samir writes down two decimal numbers.  
The difference between his numbers is 6.31.  
One of Samir's numbers is 8.23.

What could Samir's other number be?  
Give **TWO** possible answers.

**1.92** and **14.54**

2 marks

- Q2** Write the symbols  $<$ ,  $>$  or  $=$  to compare each of these decimal numbers.

75.15	<b>&lt;</b>	75.51
75.10	<b>=</b>	75.1
71.1	<b>&gt;</b>	71.06
71.05	<b>&lt;</b>	71.5

2 marks

- Q3** Oakthorpe Academy has been given a donation of £5,460 by the PTA.  
The School Council decides to use £1,755 on buying some new computer equipment.  
The rest is split equally between five year groups so they can decide for themselves how to spend the money.

How much money will each year group have?

£ **741**

2 marks

	Requirement	Mark	Additional guidance
Q1	1.92 <b>AND</b> 14.54 Award <b>ONE</b> mark for each correct answer. Numbers can be written in any order.	2	
Q2	<, =, >, < Award <b>TWO</b> marks for all four correct symbols. Award <b>ONE</b> mark for any three correct symbols.	2	
Q3	£741 Award <b>TWO</b> marks for a correct answer. Award <b>ONE</b> mark for a correct method with only one arithmetic error.	2	

Q1

This table shows the distances that four children throw a cricket ball.

	Name	Distance thrown
A	Aaliyah	9.6m
B	Ben	9.23m
C	Chloe	9.09m
D	Dale	9.32m

Write the letters A to D in order, from shortest to longest distance thrown.

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Shortest			Longest

---

1 mark

Q2

This is part of a timetable for the number 97 bus.

Moorend Avenue	07:42	07:57	08:42	08:57
Hampton Road	07:52	08:07	08:52	09:07
Green Lane Shops	08:04	08:19	09:04	09:19
Berwick's Lane	08:28	08:43	--	09:43
Coleshill Road	08:58	09:13	--	10:13
City Centre	09:17	09:33	10:00	10:33

a

It is 8 o'clock and Jamie is waiting to catch the next number 97 from Hampton Road. He catches it to visit his gran who lives in Coleshill Road.

How long is Jamie on the bus for?

---

1 mark

b

Mr Jenkins lives in Berwick's Lane.

Every day he needs to catch the number 97 into the City Centre, so that he is ready to start work at 10:00.

What time does Mr Jenkins catch the number 97?

1 mark



Q3

Kyle is adding two numbers together using the vertical addition method.

He has made a mistake.

$$\begin{array}{r} 4\ 5\ 2\ 7\ 3\ 5 \\ +\ 1\ 3\ 9\ 2\ 4\ 1 \\ \hline 5\ 8\ 1\ 9\ 7\ 6 \\ \hline \end{array}$$

Explain Kyle's mistake and write the correct answer.

Kyle's mistake is \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The correct answer is

2 marks

Q1

This table shows the distances that four children throw a cricket ball.

	Name	Distance thrown
A	Aaliyah	9.6m
B	Ben	9.23m
C	Chloe	9.09m
D	Dale	9.32m

Write the letters A to D in order, from shortest to longest distance thrown.

Shortest Longest

1 mark

Q2

This is part of a timetable for the number 97 bus.

Moorend Avenue	07:42	07:57	08:42	08:57
Hampton Road	07:52	08:07	08:52	09:07
Green Lane Shops	08:04	08:19	09:04	09:19
Berwick's Lane	08:28	08:43	--	09:43
Coleshill Road	08:58	09:13	--	10:13
City Centre	09:17	09:33	10:00	10:33

a

It is 8 o'clock and Jamie is waiting to catch the next number 97 from Hampton Road. He catches it to visit his gran who lives in Coleshill Road.

How long is Jamie on the bus for?

**66 minutes**

1 mark

b

Mr Jenkins lives in Berwick's Lane.

Every day he needs to catch the number 97 into the City Centre, so that he is ready to start work at 10:00.

What time does Mr Jenkins catch the number 97?

**08:43**

1 mark

Q3

Kyle is adding two numbers together using the vertical addition method.

He has made a mistake.

$$\begin{array}{r} 4\ 5\ 2\ 7\ 3\ 5 \\ +\ 1\ 3\ 9\ 2\ 4\ 1 \\ \hline 5\ 8\ 1\ 9\ 7\ 6 \\ \hline \end{array}$$

Explain Kyle's mistake and write the correct answer.

Kyle's mistake is \_\_\_\_\_

**See mark scheme**

**for example**

The correct answer is

**591,976**

2 marks

	Requirement	Mark	Additional guidance
Q1	C B D A	1	
Q2a	66 minutes (or 1 hour 6 minutes)	1	
Q2b	08:43	1	
Q3	Answers should recognise that Kyle has not exchanged after adding the thousands digits. The 10,000 digit should be 1 more. Correct answer: <b>591,976</b> Award <b>ONE</b> mark for appropriate identification of error and <b>ONE</b> mark for correct answer.	2	

- Q1** Becky has made a decimal number using some of these cards.



She says, “My number has two decimal places. It rounds to 74.1 when I round it to one decimal place.”

What is Becky’s number?

1 mark

- Q2** Brandon and Claire have both written down two decimal numbers.

Brandon says, “My number is 5.75.”

Claire says, “The total of our numbers is 8.33.”

What is the difference between Brandon and Claire’s numbers?

A large dotted rectangular area is provided for working out the answer. At the bottom right corner of this area, there is a smaller solid rectangular box for the final answer.

2 marks

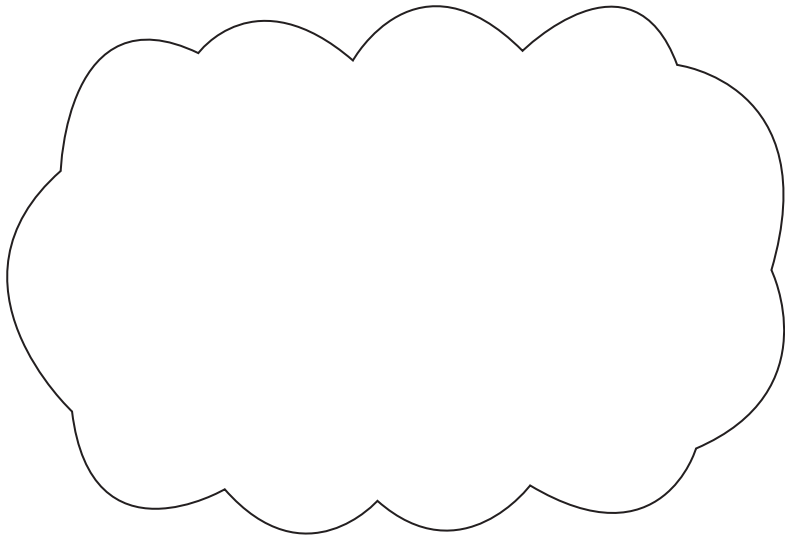
Q3

$$560 \div 70$$

Krishna says, "I know the answer to  $56 \div 7$  is 8 and so the answer to this division must be 80."

Is Krishna correct? YES / NO

Explain your answer.



1 mark

- Q1** Becky has made a decimal number using some of these cards.



She says, “My number has two decimal places. It rounds to 74.1 when I round it to one decimal place.”

What is Becky’s number?

**74.05**

1 mark

- Q2** Brandon and Claire have both written down two decimal numbers.

Brandon says, “My number is 5.75.”

Claire says, “The total of our numbers is 8.33.”

What is the difference between Brandon and Claire’s numbers?

**3.17**

2 marks



Q3

$$560 \div 70$$

Krishna says, "I know the answer to  $56 \div 7$  is 8 and so the answer to this division must be 80."

Is Krishna correct? YES / NO

Explain your answer.

*See mark scheme  
for example*

1 mark

	Requirement	Mark	Additional guidance
Q1	74.05	1	
Q2	3.17 Award <b>TWO</b> marks for a correct answer. Award <b>ONE</b> mark for a correct method with only one arithmetic error.	2	
Q3	No. Krishna is not correct because there are 8 lots of 70 in 560, not 80. If both numbers in a division are multiplied by the same amount, the answer stays the same. Award the mark for both an appropriate explanation <b>as well as</b> indicating that Krishna is not correct.	1	

Q1

A recipe for a large chocolate cake says to use 216g of sugar.

Grace wants to make a cake that is  $\frac{2}{3}$  of the size as the one in the recipe.

How much sugar will Grace need to use instead?

g

---

2 marks

Q2

Match these decimals with their equivalent fractions.

0.25

 $\frac{1}{4}$ 

0.5

 $\frac{1}{10}$ 

0.75

 $\frac{1}{2}$ 

0.2

 $\frac{1}{5}$ 

0.1

 $\frac{3}{4}$ 

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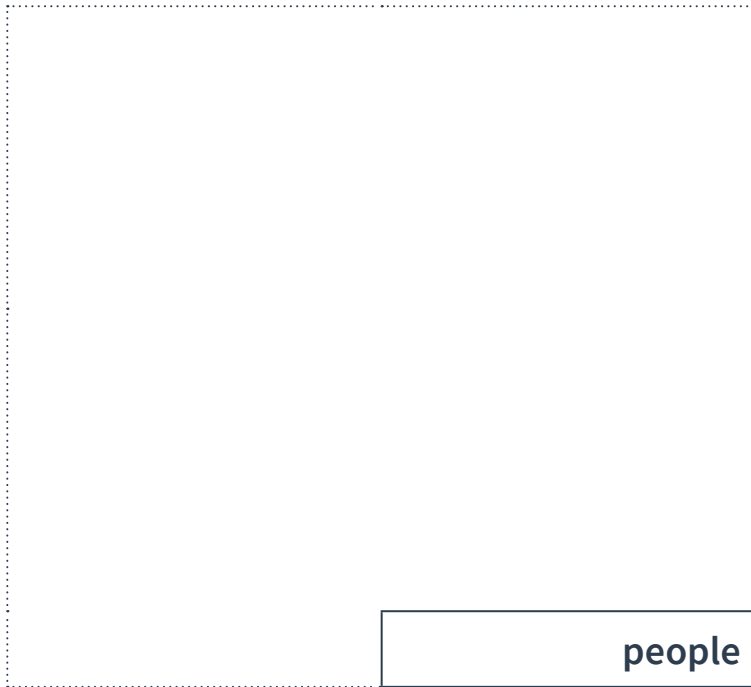
2 marks

Q3

On average, 643 people borrow books from Bishop's Gate Library every week.

It is open for all 52 weeks of the year.

How many people borrow books in total over the whole year?



people

2 marks

**Q1**

A recipe for a large chocolate cake says to use 216g of sugar.

Grace wants to make a cake that is  $\frac{2}{3}$  of the size as the one in the recipe.

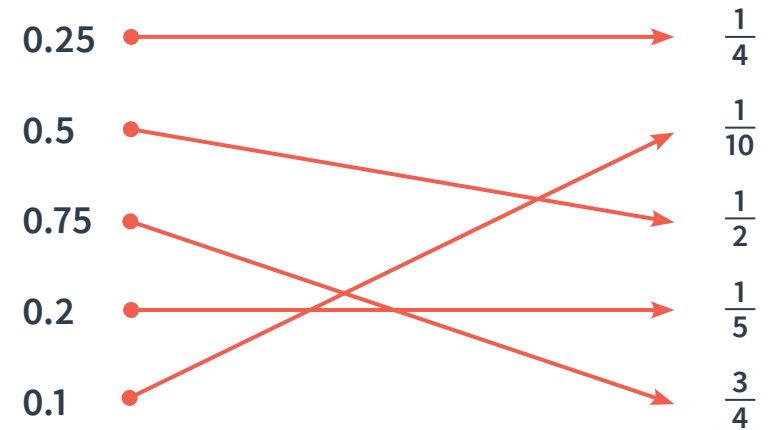
How much sugar will Grace need to use instead?

144
g

2 marks

**Q2**

Match these decimals with their equivalent fractions.



2 marks

Q3

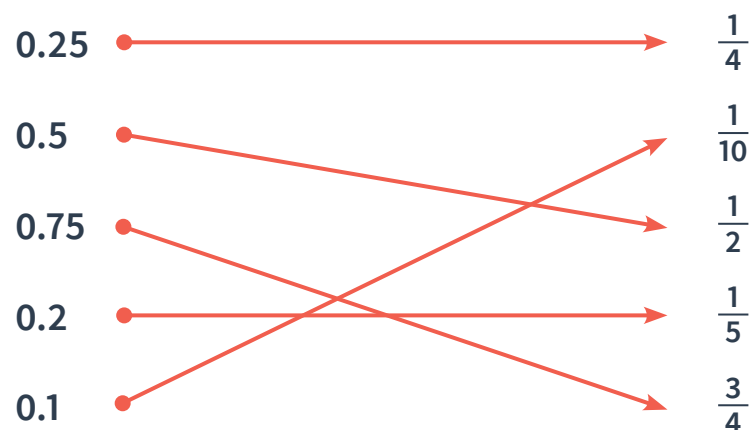
On average, 643 people borrow books from Bishop's Gate Library every week.

It is open for all 52 weeks of the year.

How many people borrow books in total over the whole year?

**33,436** people

2 marks

	Requirement	Mark	Additional guidance
Q1	<p>144g</p> <p>Award <b>TWO</b> marks for a correct answer.</p> <p>Award <b>ONE</b> mark for a correct method with only one arithmetic error.</p>	2	
Q2	 <p>Award <b>TWO</b> marks for all five pairs matched correctly.</p> <p>Award <b>ONE</b> mark for any three or four pairs matched correctly.</p>	2	
Q3	<p>33,436 people</p> <p>Award <b>TWO</b> marks for a correct answer.</p> <p>Award <b>ONE</b> mark for a correct method with only one arithmetic error.</p>	2	

Q1

A plumber measures the length of two pipes.

He says, “The difference between these two lengths is 0.82cm.

The shorter of the two pipes is 1.47m long.”

What is the total length of the two pipes?

m

---

2 marks

Q2

Number A is 341,246 greater than Number B.  
Number A is 582,637.

What is Number B?

Number B =

---

1 mark



Q3

Tom and Yusuf are playing a game.

The aim of the game is to make the largest number using digit cards.

They both turn their cards upside-down so that they are hidden.

Tom's cards:

 . 

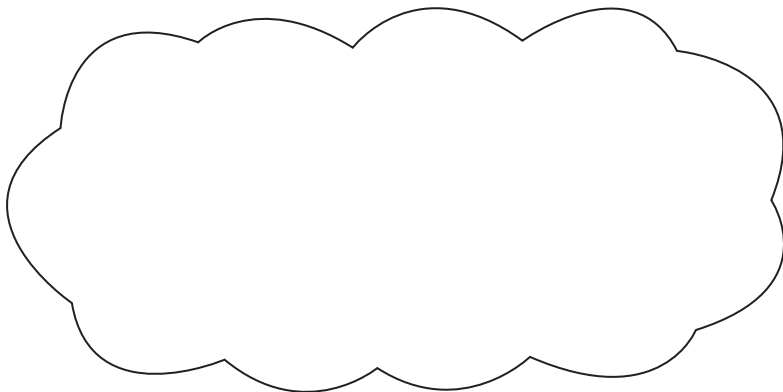
Yusuf's cards:

 .  

Yusuf says, "I win because my number has more digits in it!"

Is Yusuf correct? **YES / NO**

Explain your answer.



1 mark

Q1

A plumber measures the length of two pipes.

He says, “The difference between these two lengths is 0.82cm.

The shorter of the two pipes is 1.47m long.”

What is the total length of the two pipes?

3.76 m

2 marks

Q2

Number A is 341,246 greater than Number B.  
Number A is 582,637.

What is Number B?

Number B = 241,391

1 mark

Q3

Tom and Yusuf are playing a game.

The aim of the game is to make the largest number using digit cards.

They both turn their cards upside-down so that they are hidden.

Tom's cards:

 . 

Yusuf's cards:

 .  

Yusuf says, "I win because my number has more digits in it!"

Is Yusuf correct? YES/NO

Explain your answer.

*See mark scheme  
for example*

1 mark

	Requirement	Mark	Additional guidance
Q1	3.76m Award <b>TWO</b> marks for a correct answer. Award <b>ONE</b> mark for a correct method with only one arithmetic error.	2	
Q2	241,391	1	
Q3	No. Yusuf is not correct because the digits should be compared from left to right. For example, if the digit in the ones place in Tom's number is larger, then Tom's number will be larger. Award <b>ONE</b> mark for any appropriate explanation as well as indicating that Yusuf is not correct.	1	

What are examiners looking for?

Q3

Tom and Yusuf are playing a game.

The aim of the game is to make the largest number using digit cards.

They both turn their cards upside-down so that they are hidden.

Tom's cards:

 . 

Yusuf's cards:

 .  

Yusuf says, "I win because my number has more digits in it!"

Is Yusuf correct? YES/NO

Explain your answer.

*Yusuf is not correct because the digits should be compared from left to right. For example, if the digit in the ones place in Tom's number is larger, then Tom's number will be larger.*

Why are we asking this question?

This question is designed to assess children's ability to read, compare and order numbers with up to three decimal places.

What common errors do we expect to see?

Some children may agree with Yusuf in the problem and think that the more digits a number has after the decimal point, the greater the number.

Some children may think that the digits after a decimal point can be read as if they were a number. For example, they may think read 24.15 as 'twenty-four point fifteen'. This will lead them to reason incorrectly about the size of both numbers.

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1 mark

### How to encourage children to solve this question

Encourage children to sketch a place-value grid (from ones through to hundredths) and to explore different possibilities. Is it possible for Tom to reveal digits that show a larger number than Yusuf? What about the other way around?

Using a place-value grid ensures that children are encouraged to consider the place-value of each digit. Ask “which digit has the most value in their numbers — so which digit should Tom and Yusuf compare first?”

Children may find it beneficial to create numbers and cover up their grid with a piece of paper, moving it gradually to the right and revealing each digit from left to right. This will allow them to consider the role of each column in turn, rather than becoming distracted by the length of a number after the decimal point.



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