THIRD SPACE
LEARNING

Specialist 1-to-1 maths interventions
and curriculum resources

Rapid Reasoning

Year 4 | Week 2

As this is still towards the start of the introduction of Year 4 *Rapid Reasoning*, children should be continuing to focus on increasing their reasoning confidence each day.

The Year 4 objectives introduced this week continue to focus on **place value**. As with all weeks of *Rapid Reasoning*, there continues to be content covered from across the maths curriculum.

Year 4 objectives introduced in a reasoning context for the first time this week include:

- identifying and representing numbers using different representations
- finding 10, 100 or 1000 more or less than a given number (children should be encouraged to use their knowledge of place value in order to do this).

The following Year 4 objectives continue to be a focus from Week 1:

- ordering and comparing numbers beyond 1,000
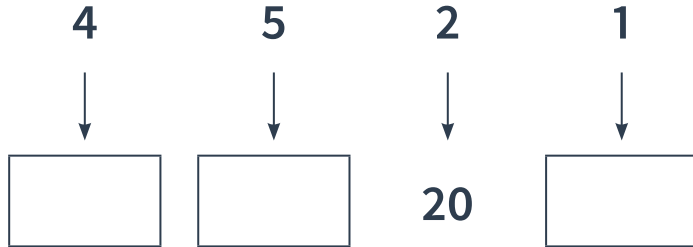- recognising the place value of each digit in a four-digit number.

Objectives from *Fluent in Five* that are also tested in a reasoning context this week include:

- finding unit fractions of number
- basic written multiplication, division, addition and subtraction from Year 3.

Please note that some questions are worth two marks, and by their very nature, answers to these questions are never clear-cut. For a full breakdown of how marks would be awarded for these questions, please refer to the mark schemes provided.

Q1 Write the value of each digit in this number. One has been done for you.

4   5   2   1

↓   ↓   ↓   ↓

[ ]   [ ]   20   [ ]

1 mark

Q3 Add <, = or > to the boxes below to make these statements correct.

879   [ ]   867

7,843 [ ]   8,743

8,973 [ ]   10,000

2 marks

Q2 Lily is counting in steps of 25.

Complete the boxes below.

[ ]   [ ]   225   [ ]

1 mark

Q1 Write the value of each digit in this number. One has been done for you.

4	5	2	1
4000	**500**	20	**1**

_____
1 mark

Q2 Lily is counting in steps of 25.

Complete the boxes below.

175 **200** 225 **250**

_____
1 mark

Q3 Add <, = or > to the boxes below to make these statements correct.

879   **>**   867

7,843   **<**   8,743

8,973   **<**   10,000

_____
2 marks

	Requirement	Mark	Additional guidance
Q1	Award **ONE** mark for: 4 → 4000 5 → 500 2 → 20 1 → 1	1	
Q2	**175** **200** 225 **250**	1	
Q3	Award **TWO** marks for all three symbols added correctly. 879 > 867 7,843 < 8,743 8,973 < 10,000 Award **ONE** mark for two symbols added correctly.	2	

Q1 **Fill in the missing digits in this calculation.**

5	4	
2		8
	3	1

2 marks

Q2 Football cards come in packs of 9.

Mark has bought 8 packs of cards.

How many cards does Mark have?

packs

1 mark

Q3 This sequence increases in steps of 100 each time.

Fill in the missing numbers.

☐ 765 ☐ 965 ☐

1 mark

Q1 Fill in the missing digits in this calculation.

5	4	**3**
2	**8**	8

8	3	1

2 marks

Q2 Football cards come in packs of 9.

Mark has bought 8 packs of cards.

How many cards does Mark have?

72 packs

1 mark

Q3 This sequence increases in steps of 100 each time.
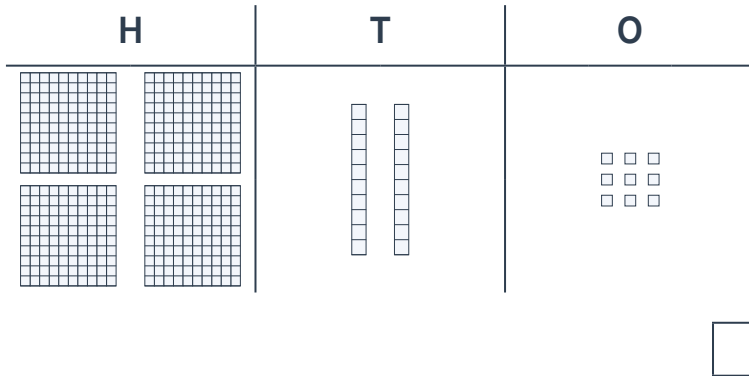
Fill in the missing numbers.

665	765	**865**	965	**1065**

1 mark

	Requirement	Mark	Additional guidance
Q1	**Award TWO marks for all three digits added correctly.**	2	
	5 4 3		
	2 8 8		
	8 3 1		
	Award ONE mark for two digits added correctly.		
Q2	72	1	
Q3	**Award ONE mark for all three numbers completed correctly.** **665** 765 **865** 965 **1065**	1	

Q1 **Tick the biggest number.**
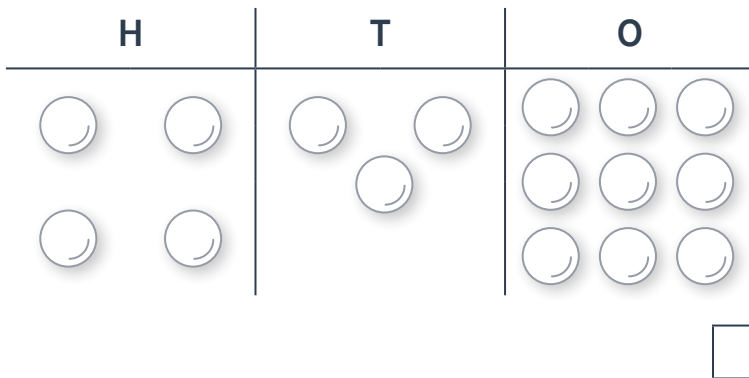
H	T	O

☐

H	T	O

☐

_____
1 mark

Q2 Each chicken at Whit Farm lays 8 eggs a week.

There are 23 chickens at Whit Farm.

How many eggs do they lay altogether, each week?
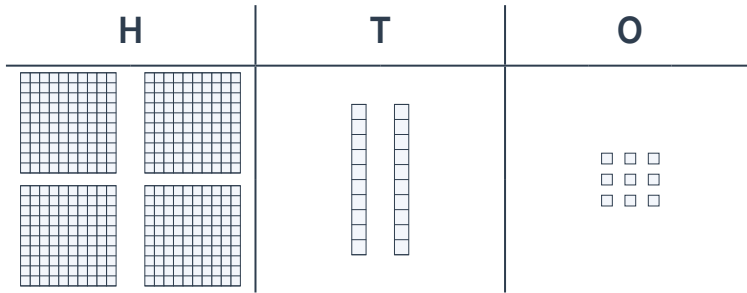
	eggs

_____
1 mark

Q3 Add <, = or > to the boxes below to make these statements correct.

7,078 ☐ 7,100

6,798 ☐ 6,785

18,032 ☐ 18,101

_____
2 marks

Q1 Tick the biggest number.

H	T	O

☐

H	T	O

☑

1 mark

Q2 Each chicken at Whit Farm lays 8 eggs a week.

There are 23 chickens at Whit Farm.

How many eggs do they lay altogether, each week?

184 eggs

1 mark

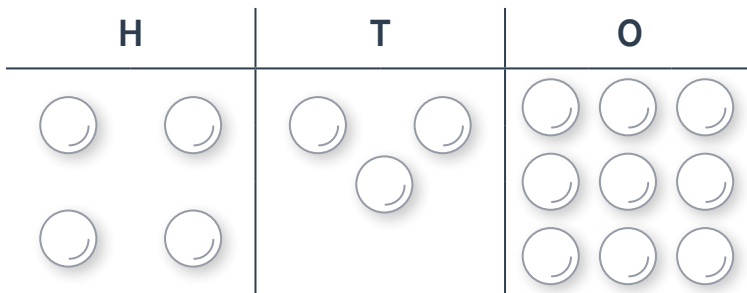**Q3** Add <, = or > to the boxes below to make these statements correct.

7,078 **<** 7,100

6,798 **>** 6,785

18,032 **<** 18,101

2 marks

	Requirement	Mark	Additional guidance
Q1	Answer with place value counters	1	
Q2	184	1	
Q3	Award **TWO** marks for all three symbols added correctly. 7,078 < 7,100 6,798 > 6,785 18,032 < 18,101 Award **ONE** mark for two symbols added correctly.	2	

What are examiners looking for?

Q3 Add <, = or > to the boxes below to make these statements correct.

7,078   **<**   7,100

6,798   **>**   6,785

18,032   **<**   18,101

2 marks

Why are we asking this question?

This question is designed to test children's understanding of place value in numbers with up to five digits and their ability to compare two numbers. This question also assesses their understanding of the use of the inequality signs, also known as comparison symbols, (which is knowledge that was first introduced in Year 2).

What common errors do we expect to see?

Children incorrectly place the inequality symbols. This indicates that children do not have a secure understanding of the place value of numbers and how this is used to compare numbers. Each pair of numbers in this question is designed so that they cannot be compared by simply looking at the first number in the digit.

Children reverse the inequality symbols. This indicates that children do not understand that < means less than and > means more than. Children should remember that the 'big' end of the symbol always faces the biggest number.

BIG **>** SMALL
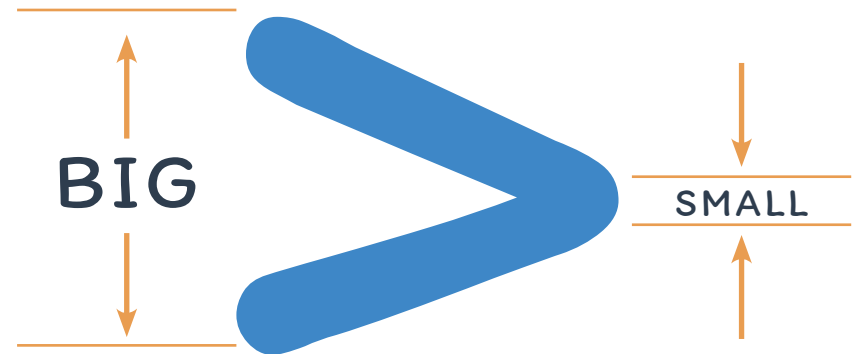
How to encourage children to solve this question

Children should be encouraged to compare numbers, starting with the most significant (i.e. largest) place value first. If the value of this digit is the same in both numbers, they should then move to the next significant place (i.e. the place to the right of the digit they have just compared) and compare the value of this digit in both numbers, continuing until they find a difference in the value of the digits in the same place value in the number, and then make their comparisons based on this number.

For example, when comparing 6,798 and 6,785 children should start by comparing the thousands place, which in both numbers is worth 6,000, so a decision as to which number is largest cannot be made.

They should then compare the hundreds place, which in both numbers is worth 700, so a decision as to which number is largest cannot be made.

They should then compare the tens place. They should notice that in 6,798 there are 9 tens, or 90, and in 6,785 there are 8 tens, or 80. They can therefore identify that 6,798 is bigger than 6,785 as it has a greater number of tens (as the thousands and hundreds places have the same value).
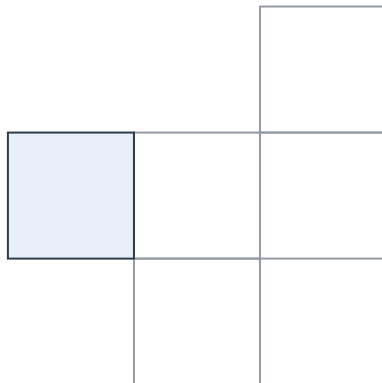
Q1 Fill in the missing digits in this calculation.

| 4 | 9 | 3 |
	1	
7		2

2 marks

Q2 Write the fraction of each diagram that is shaded.

a

$$A = \frac{}{}$$

1 mark

b

$$B = \frac{}{}$$

1 mark

Q3 Complete this table.

	Rounded to the nearest 10
683	
1,849	
699	

2 marks

Q1 Fill in the missing digits in this calculation.

4	9	3
2	1	**9**
7	**1**	2

2 marks

b

$$B = \frac{3}{4}$$

1 mark

Q2 Write the fraction of each diagram that is shaded.

a

$$A = \frac{1}{5}$$

1 mark
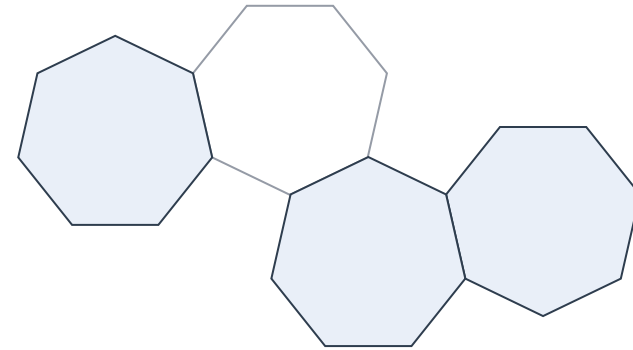
Q3 Complete this table.

	Rounded to the nearest 10
683	**690**
1,849	**1,850**
699	**700**

2 marks

	Requirement	Mark	Additional guidance
Q1	Award **TWO** marks for all three digits added correctly. 4 9 3 2 1 9 ——— 7 1 2 Award **ONE** mark for two digits added correctly.	2	
Q2a	$\frac{1}{5}$	1	
Q2b	$\frac{3}{4}$	1	
Q3	Award **TWO** marks for all three correctly completed. 		Rounded to the nearest 10
---	---
683	**690**
1,849	**1,850**
699	**700** | Award **ONE** mark for two correctly completed.	2	

Q1 Add <, = or > to the boxes below to make these statements correct.

$60 + 1{,}000$ ☐ $960 + 100$

$100 + 675$ ☐ $772 + 10$

$1{,}873 + 100$ ☐ $1{,}974 - 100$

2 marks

Q2 Circle the number that is a good estimation for the correct answer to $149 + 148$.
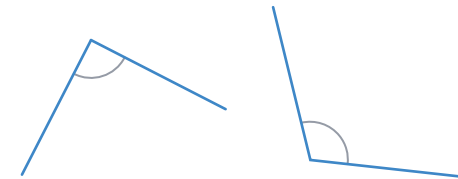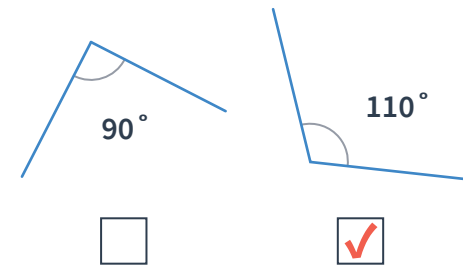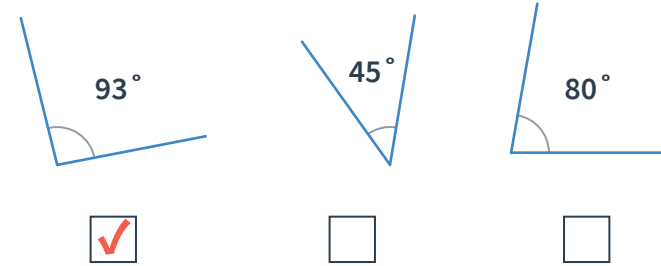
Do not work out the exact answer.

300   310   400   100   70   200

1 mark

Q3 Tick the angles that are **greater** than a right angle.

☐   ☐   ☐

☐   ☐

1 mark

Q1 Add <, = or > to the boxes below to make these statements correct.

$60 + 1,000$ **=** $960 + 100$

$100 + 675$ **<** $772 + 10$

$1,873 + 100$ **>** $1,974 - 100$

2 marks

Q2 Circle the number that is a good estimation for the correct answer to $149 + 148$.

Do not work out the exact answer.
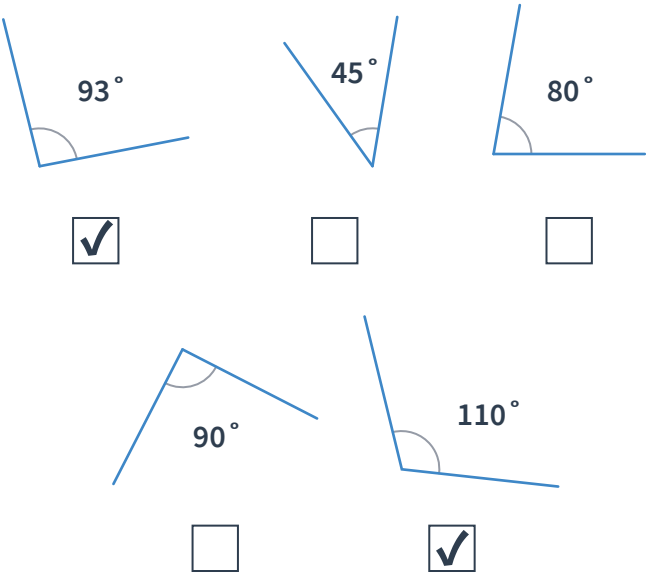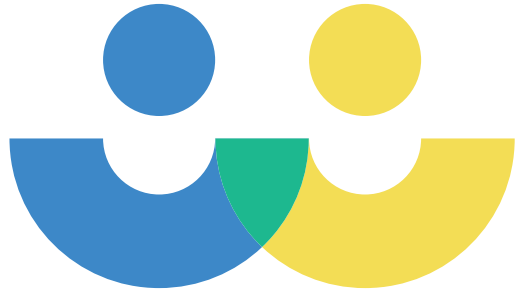
(300) 310 400 100 70 200

1 mark

Q3 Tick the angles that are **greater** than a right angle.

93° ✓

45° ☐

80° ☐

90° ☐

110° ✓

1 mark

	Requirement	Mark	Additional guidance
Q1	Award **TWO** marks for all three symbols completed correctly. 60 + 1,000 = 960 + 100 100 + 675 < 772 + 10 1,873 + 100 > 1,974 − 100 Award **ONE** mark for two symbols completed correctly.	2	
Q2	300 circled	1	
Q3		1	Both angles need to be ticked for the award of the mark.

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Rapid Reasoning

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