London Consortium Mock 1 Part 2

First Name: ....

Last Name: ....

Primary School: ....

Date of Birth: ....

Today's Date: ....

This paper is divided into two parts.

Part 1 includes:
• Maths (20 minutes)
• Non-Verbal Reasoning (10 minutes)
• English Comprehension (20 minutes)
• Verbal Reasoning (10 minutes)

Break (30 minutes)

Part 2 includes:
• Puzzles & Problem Solving (15 minutes)
• Creative Comprehension (25 minutes)

Total test time: 100 minutes

London Consortium – Puzzles & Problem Solving

Read the instructions carefully.

1. Do not turn the page until you are told to do so.

2. You may work the questions out in your head, or by working out on the white area around the question.

3. Work as quickly and carefully as you can.

4. Make any alterations to your answers **clearly**. You will not lose marks for crossing out.

5. You will have **15 minutes** to do this test. If you find you cannot do a question, do not waste time on it, but go on to the next one.

6. Once the test has begun, you should not ask about questions in the test.

7. The use of electronic calculators of any description (including smart watches) is **NOT** permitted.

Puzzles & Problem Solving
(15 minutes)

1   Complete the multiplication table below. Use each of the numbers shown in bold on the left once. Write the numbers into the grey squares on the grid.

3	4	10
9	5	6
7	7	9

×					
	12		28		40
		54		81	
	15		35		50
		42		63	

What is the total if we add the numbers in the top row? ....

2   Complete the multiplication table below. Use each of the numbers shown in bold on the left once. Write the numbers into the grey squares on the grid.
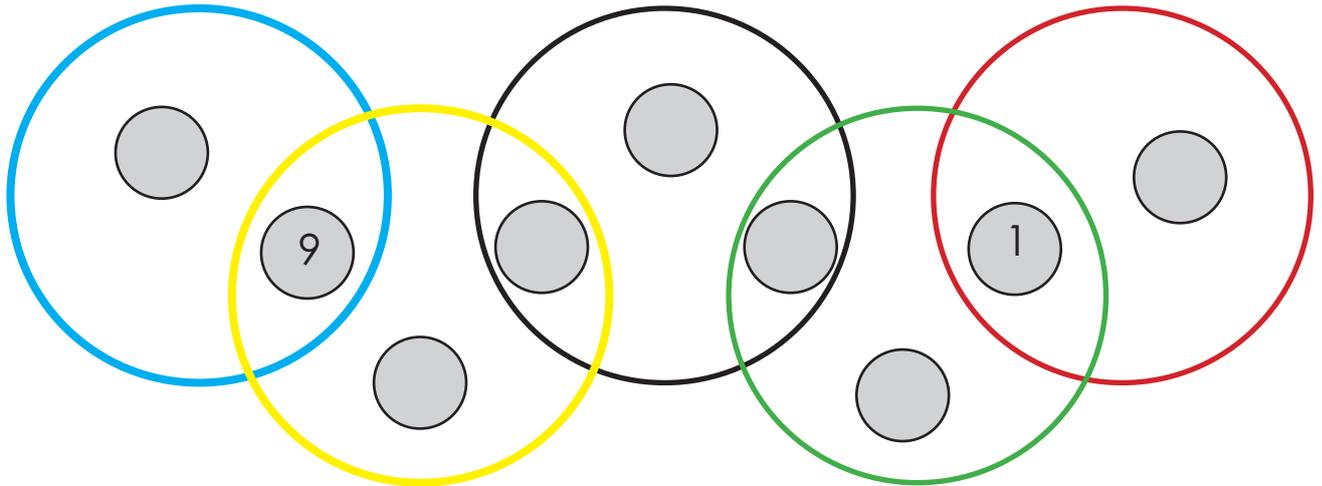
4	9	8
12	6	10
5	8	9

×					
		96		60	
	36		54		81
		80		50	
	32		48		72

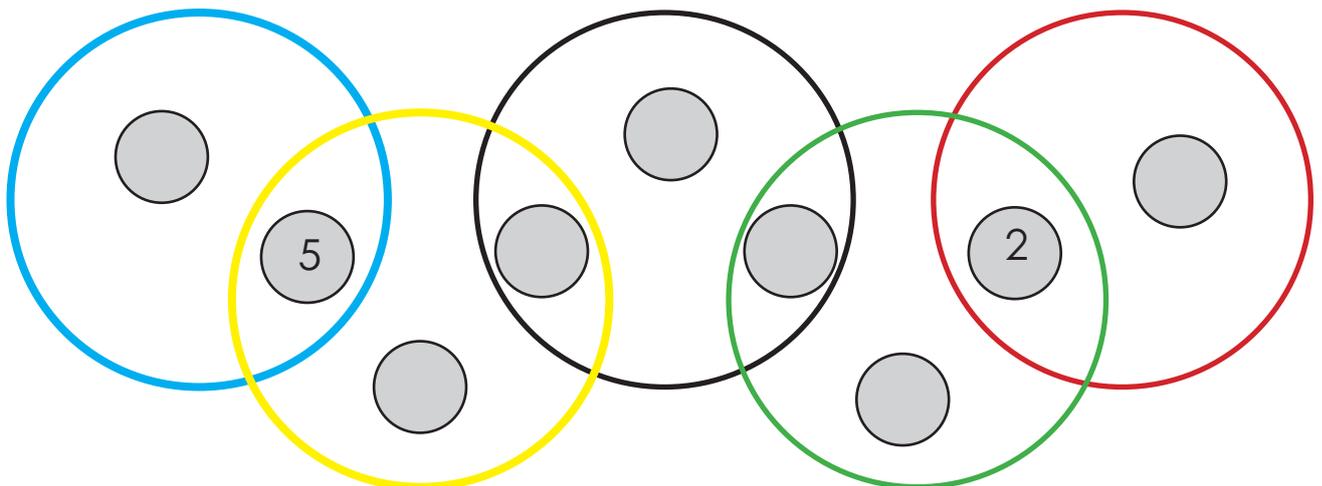What is the total if we add the numbers in the top row? ....

3 Use the numbers in bold on the left to complete the gaps in the pair of equivalent fractions.

1
4
4
9

$$\frac{1\,\square}{\square\,2} = \frac{48}{64}$$

What is the total sum of the digits that form the denominators of the two fractions?

....

4 Use the numbers in bold on the left to complete the gaps in the pair of equivalent fractions.

2
4
2
0

$$\frac{\square\,5}{3\,\square} = \frac{45}{68}$$

What is the total sum of the digits that form the denominators of the two fractions?

....

5 Use the numbers in bold to fill the gaps in the rings, so that the sum of the numbers in each ring is 18. Two of the numbers have been done for you.

9	6	3	8	7	10	17

What is the sum of the odd numbers in the black ring? ....

6 Use the numbers in bold to fill the gaps in the rings, so that the sum of the numbers in each ring is 13. Two of the numbers have been done for you.

2	6	1	8	6	10	11

What is the sum of the even numbers in the yellow ring? ....

London Consortium – Creative Comprehension

Read the instructions carefully.

1. In this section you are required to analyse various sources and then answer questions about them.

2. You can refer back to the sources as many times as you need.

3. For each question, choose the correct answer choice by circling it.

4. Do not turn the page until you are told to do so.

5. Work as quickly and carefully as you can.

6. You will have **25 minutes** to do this test. If you find you cannot do a question, do not waste time on it, but go on to the next one.

Creative Comprehension

(25 minutes)

Analyse the sources and then answer the questions that follow.

Source 1: Ada Lovelace: Years Ahead of her Peers (A Short Biography)

Ada Lovelace and Charles Babbage invented an early computer called the Analytical Engine. The duo's plans were so complex that the build was never completed in their lifetimes! The Analytical Engine has more in common with our modern-day computers than you might think. Quite an amazing feat, given it was first imagined in 1937!

Ada Lovelace was born in England on 10th December 1815. Her mother, Lady Byron, was a mathematician and her father, Lord Byron, was a famous poet. However, she didn't grow up with her father as he left shortly after she was born and died in Greece when she was just 8 years old.

From early childhood, Ada was interested in mathematics. Her mother was keen to foster her interest in the subject as much as possible. By the time Ada was a teenager, she was an extremely able mathematician. It was at this time that she met Charles Babbage, who is now known as the 'father of computers'. Despite living in the 1800s, Ada was very much ahead of her time. She was one of the first people to realise that computers could be used for lots of general purposes, not just completing calculations. As part of her work, she wrote what many consider to be the first ever computer programme.

Lovelace died on 27 November 1852 at the incredibly young age of 36.

Source 2: Image of a pencil drawing of Ada Lovelace, including a quote from a Lord Byron poem.

ADA, BYRON'S DAUGHTER, AFTERWARDS COUNTESS OF LOVELACE.
From a pencil drawing by C. Linsell.

" Is thy face like thy mother's, my fair child,
Ada, sole daughter of my house and heart?"

Source 3: Extract from *Fare Thee Well* by Lord Byron

1   And when thou wouldst solace gather,

When our child's first accents flow,

Wilt thou teach her to say 'Father!'

Though his care she must forego?

5   When her little hands shall press thee,

When her lip to thine is press'd

Think of him whose prayer shall bless thee,

Think of him thy love had bless'd!

1   According to **Source 1**, why was the Analytical Engine never completed during Ada Lovelace and Charles Babbage's lifetimes?

   A   They ran out of funding.

   B   The plans were too complex.

   C   They disagreed on how to build it.

   D   They lost interest in the project.

   E   It was banned by the government.

2   According to **Source 1**, how was Ada Lovelace's mother influential in her education?

   A   She encouraged Ada's love of poetry.

   B   She introduced Ada to Charles Babbage.

   C   She discouraged Ada from studying science.

   D   She supported Ada's interest in mathematics.

   E   She insisted Ada only study English literature.

3   According to **Source 1**, how old was Lovelace when her father died?

   A   15 years old

   B   27 years old

   C   8 years old

   D   36 years old

   E   18 years old

4   What does **Source 1** suggest about Lovelace's thinking?

A   She was ahead of her time in understanding computing's potential.

B   She only focused on mathematics and had no other interests.

C   She was more interested in poetry than in computing.

D   She believed computers were only useful for calculations.

E   She worked alone, without any influence from others.

5   According to **Source 1**, which of the following statements about Ada
Lovelace is true?

A   She lived to see computers become widely used.

B   She and her father worked together on poetry and mathematics.

C   She lived in the 20th century and helped design modern computers.

D   She met Charles Babbage while she was a teenager.

E   She was raised by both her mother and father in England.

6   Look at **Sources 1 and 2**. Which relationship is confirmed by both sources?

A   Ada Lovelace and Charles Babbage were colleagues.

B   Lady Byron and Ada Lovelace were mother and daughter.

C   Ada Lovelace and Charles Babbage were siblings.

D   Lady Byron and Lord Byron were married.

E   Lord Byron and Ada Lovelace were father and daughter.

7   **Source 2** is a pencil drawing by C.Linsell. Why might it be an unreliable source?

   A   Any source that is a picture is automatically unreliable.

   B   The image is a drawing so is subject to the artist's interpretation of what Ada looked like.

   C   Everyone knows that women in the 19th century didn't have curly hair.

   D   There is no colour in the image so it cannot be trusted.

   E   It is not believable that a picture from the 1800s exists.

8   Look at **Source 2**. What is the main theme of the quote included beneath the drawing?

   A   Lord Byron is comparing Ada's appearance to her mother's and expressing affection.

   B   Lord Byron is questioning whether Ada will follow in his footsteps as a poet.

   C   The poem criticises Ada for not resembling her father.

   D   The quote suggests Ada Lovelace was raised solely by her mother.

   E   The poem is about Ada Lovelace's future achievements in mathematics.

9   Look at **Sources 2 and 3**. How do both suggest that Lord Bryon cared for his distant daughter?

   A   He paid for the drawing in Source 2 to be made, showing that he valued having an image of his daughter so he could remember her. He also talks about blessing his daughter in line 7 of Source 3.

   B   Ada is described as Byron's daughter in Source 2, so their relationship must have been important. In Source 3 he explains how he comes to see her.

   C   Source 3 talks about love so therefore he must have loved his daughter and Ada is smiling in the picture.

   D   He wanted his daughter to be taught to say, 'Father', implying he doesn't want her to forget him and he explains that she is the only daughter with a place in his heart.

   E   Line 1 in Source 3 suggests that Lord Byron takes comfort in knowing he has a daughter and Source 2 asks if she looks like her mother, showing he was taking an interest in her.

10   Look at **Sources 1 and 3**. How does the poem relate to the biography?

         A   Lines 5 and 6 describe what a great child Ada was and how easy she was to look after.

         B   The poem is a celebration of Ada's technological achievements.

         C   Line 4 mirrors the message that Ada wasn't brought up by her father.

         D   Both sources demonstrate that Ada was religious.

         E   Both evidence that Lord Byron loved his daughter very much.

11   Look at **Source 3**. What is the speaker expressing in these lines?

         A   A desire to be reunited with his child and partner.

         B   Anger towards the child's mother for taking her away.

         C   Hope that the child will never know about him.

         D   Joy at being able to raise his child in a loving home.

         E   A wish for the child to forget him completely.

12   Look at **Source 3**. What does the phrase 'Though his care she must forego' suggest about the speaker?

         A   He has passed away and can no longer care for the child.

         B   He is unable to be a part of his child's life.

         C   He refuses to take responsibility for his child.

         D   He is warning the mother not to let the child forget him.

         E   He is promising to return and raise the child himself.

13 Looking at Source 1, why might Lady Byron be described as keen to 'foster her interest' regarding Ada's love of maths?

A   She wanted her to become famous for developing the modern computer so the family could have a reliable income.

B   She was a mathematician herself, so when she saw her daughter loved it, she was happy to encourage this.

C   She believed all girls should be good at maths.

D   She wished for her daughter to do something incredible before she died.

E   She wanted her daughter to work with Charles Babbage.

14 Look at **Source 3**. What emotion is most strongly conveyed in the second stanza?

A   bitterness

B   hope

C   love

D   indifference

E   anger

15 Look at **Source 3.** What is the speaker asking the child's mother to do?

A   Teach the child to forget him.

B   Ensure the child never learns about his past mistakes.

C   Remind the child of his love and allow her to remember him.

D   Stop the child from speaking his name.

E   Raise the child to become a poet like him.

16   Look at **Sources 2 and 3**. How do these sources portray Ada's significance in different ways?

A   The poem emphasises Ada's lost relationship with her father, while the drawing presents her as an accomplished woman in her own right.

B   Both sources suggest that Ada was raised by her father and had a strong bond with him.

C   The drawing highlights Ada's love for poetry, while the poem suggests she had no interest in her father's literary works.

D   The poem focuses on Ada's scientific achievements, while the drawing represents her importance as a poet.

E   Both sources emphasise Ada's success as a mathematician and her contributions to computing.

END OF CREATIVE COMPREHENSION TEST

Working Out Space

END OF PART 2