GL South West Hertfordshire
Mock 1 Mathematics

Paper A

Mathematics

50 minutes
60 marks

- This is a multiple-choice paper. Mark your answer to each question on the separate answer sheet. You should mark only one answer for each question.

- If you are not sure of an answer, choose the one you think is best. If you cannot do a question, leave it and move onto the next.

- Work as quickly and carefully as you can.

Please turn over the page to begin the practice section for the Mathematics Test.

Maths Practice Section

(Untimed)

This practice section gives an example of the sort of questions you will be faced with in this test, with the correct answer filled in on the answer sheet so that you can see how to do it.

There are also some practice questions that don't have the answers filled in, so that you can practise working them out for yourself and filling in the answer sheet.

Work out the correct answer and mark its letter on the answer sheet.

A   Example

I think of a number.
I triple my number and then I subtract 17.
The final result is 127.

What was the number I started with?

A. 150   B. 64   C. 79   D. 48   E. 36

The answer is **48**. You can work this out by taking the final result, 127, and reversing the steps described.

The correct answer has been marked on your answer sheet.

Now try these practice questions.
Work out the correct answer and mark it on the answer sheet.

1   **Practice**

Three identical books have a total weight of 840g. What is the weight of five of these books?

A. 280g   B. 1,400g   C. 1,120g   D. 1.2kg   E. 960g

2   **Practice**

The perimeter of a rectangle is 30cm. The length of the rectangle is 12cm. What is the width of the rectangle?

A. 10cm   B. 3cm   C. 6cm   D.9cm   E. 4cm

END OF PRACTICE SECTION

**The Mathematics Test begins on the next page.**

- **You have 50 minutes to complete the Mathematics Test.**
- **There are 60 questions to answer.**
- **Your time will start when you turn over the page.**
- **Do not turn over the page until you are told to do so.**

Maths
(50 minutes)

Work out the correct answer and mark its letter on your answer sheet.

1   A right-angled triangle has one angle that is 60 degrees. What are the other two angles?

A   All angles are 60°

B   90° and 30°

C   This cannot make a valid triangle.

D   210°

E   60° and 90°

2   Tariq adds 2500ml of water into this bucket. How many litres of water are in the bucket now?
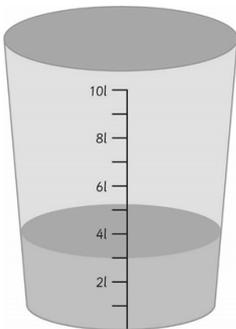
A 3,000ml   **B** 4.5l   **C** 5.5l   **D** 7l   **E** 5,500ml

3   Calculate the value of:

2 ½ − 1 ⅞ =

A 1 ¾   **B** 1 ¼   **C** 1   **D** 3 ¾   **E** 2 ¼

4   Which is the largest number?

0.27   ½   ⅕   0.52   ⅖

A 0.27   **B** ½   **C** ⅕   **D** 0.52   **E** ⅖

5   Which number is closest to 0.19?

0.27   ½   ⅕   0.52   ⅖

A 0.27   **B** ½   **C** ⅕   **D** 0.52   **E** ⅖

6   The total flying time from Abuja to New York via London is 15 hours. The section from Abuja to London takes 40% of the time. The flight takes off from Abuja at 10.20am.
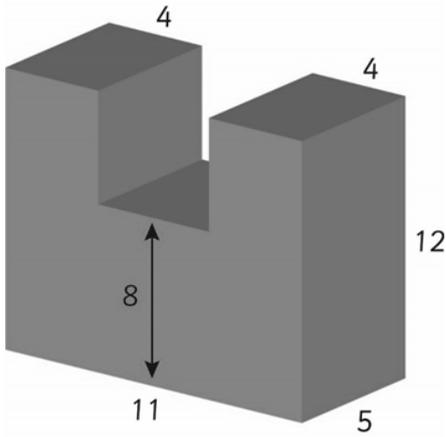
Abuja is 1 hour ahead of London. What time does the flight land in London?

A 1:20am   **B** 6:20am   **C** 4:20pm   **D** 4:20am   **E** 3:20pm


7   There is a stopover in London of 3 hours. New York is 5 hours behind London. What time does the flight land in New York?

A 10:20pm   **B** 3:20am   **C** 4:20am   **D** 1:20am   **E** 8:20pm

8 What is the volume of this shape? (All measurements are in cm.)

A 568cm³	**B** 800cm³	**C** 600cm³	**D** 660cm³	**E** 1,056cm³

9 Amy took the temperature at 10am as seen on this thermometer. 13 hours later the temperature had reduced by 7 degrees. What was the temperature then?
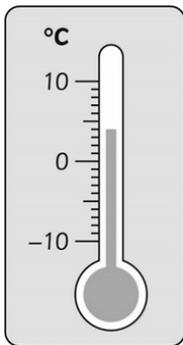
A 7°	**B** -5°	**C** -1°	**D** -3°	**E** 6°

10 This is a train timetable for the Edinburgh to Kings Cross train.

Explore Travel – Train Timetable			
Edinburgh	05:58	08:25	09:45
Newcastle	07:42	10:10	11:30
Doncaster	09:16	11:42	13:13
Kings Cross	10:53	13:20	14:14

If the 05:58 left 17 minutes late, what time would passengers arrive at Doncaster?

A 09:00	**B** 07:52	**C** 09:33	**D** 10:33	**E** 09:52

11   A replacement bus is needed for the 08:25 from Edinburgh between Newcastle and Doncaster. The bus takes 2 hours and 10 minutes. How late will the passengers arrive in Doncaster?

| **A** 0 minutes | **B** 2 hours and 10 minutes | **C** 12 minutes | **D** 38 minutes | **E** 1 hour and 10 minutes |

The graph below shows the number of basketball games played at a leisure centre over a week. Use the graph to answer questions 12 – 14.

Basketball Games Played
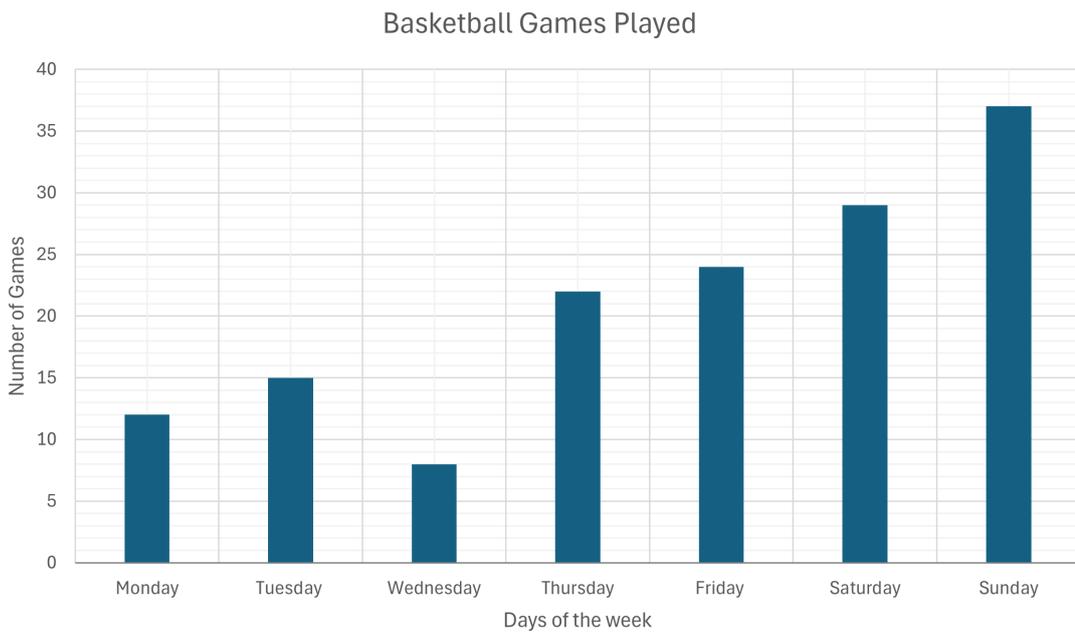
12   What was the total number of games at the weekend?

A 66   **B** 56   **C** 90   **D** 147   **E** 27

13   What is the range between the numbers of games played across the week?

A 34   **B** 20   **C** 147   **D** 29   **E** 37

14   What was the mean number of games played per day?

A 21   **B** 20   **C** 22   **D** 23   **E** 25

15 Calculate 17.3 + 12.9 =

A 30.1   **B** 29.9   **C** 31.1   **D** 31.2   **E** 30.2

16 Calculate 7.2 ×11.4 =

A 82.08   **B** 82.0   **C** 87.2   **D** 82.8   **E** 87.02

17 Find 15% of 150.

A 12.5   **B** 22.5   **C** 1.5   **D** 19.5   **E** 15

18 Joao runs a restaurant. The first customer buys a biscuit, a banana and a bottle of water for £4. The second customer buys 2 bottles of water, a banana and a biscuit for £6. The third customer buys 2 biscuits, a banana and a bottle of water for £5.50.

How much does a biscuit cost?

A £1.50   **B** £1.00   **C** £2.50   **D** £0.50   **E** £2.00
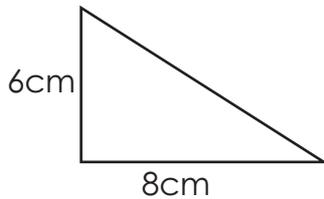
19 How much does a banana cost?

A £1.50   **B** £1.00   **C** £2.50   **D** £0.50   **E** £2.00

20   How much does a bottle of water cost?

A   £1.50   **B**   £1.00   **C**   £2.50   **D**   £0.50   **E**   £2.00

21   Calculate the area of this triangle.

6cm

8cm

A   46cm^2 **B**   32cm^2 **C**   24cm^2 **D**   16cm^2 **E**   62cm^2

22   What is the value of p in $3p^2 = 108$?

A   4   **B**   9   **C**   3   **D**   6   **E**   5

23   Miss Miller's class recorded the number of each type of bird they saw from the classroom window.

Pigeon	Wren	Sparrow	Blackbird
32	3	8	7

What percentage of the birds were pigeons?

A   12%   **B**   64%   **C**   56%   **D**   32%   **E**   48%

24   What is the value of j in this equation: $\dfrac{j + 8.5}{60} = 20\%$

   A 1.5   **B** 68.5   **C** 42.5   **D** 3.5   **E** 2.5

25   What is the highest common factor of 18 and 36?

   A 12   **B** 36   **C** 9   **D** 6   **E** 18

26   To add up all the angles in a polygon, you subtract 2 from the number of sides
          and multiply the result by 180°.
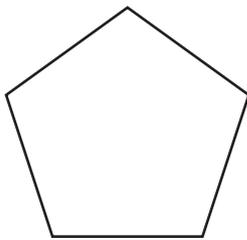
   What do the angles of a pentagon add up to?

   A 600°   **B** 720°   **C** 760°   **D** 120°   **E** 540°

27   What is the value of 6 in 56,301?

   A 6   **B** 60   **C** 600   **D** 6,000   **E** 60,000

28   What is this number in figures?

   Seven thousand, four hundred and two.

   A 7,402   **B** 7.420   **C** 70,042   **D** 7,042   **E** 7,024

29   A shop sells pencils for 15p each. How much do 8 pencils cost?

     A   95p   **B**   £1.05   **C**   £1.20   **D**   £1.50   **E**   £12.00

30   What is 3.2 × 10?

     A   0.32   **B**   3.02   **C**   32   **D**   320   **E**   3.2

31   A jug contains 1.2 litres of juice. A glass can hold 250ml. How many full glasses can be filled?

     A   2   **B**   3   **C**   4   **D**   5   **E**   6

32   Which angle is obtuse?

     A   45°   **B**   90°   **C**   30°   **D**   180°   **E**   120°

33   10 friends share 5 pizzas between them.

If each pizza is cut into 8 pieces, how many pieces does each friend receive?

     A   4   **B**   2.5   **C**   6   **D**   3.5   **E**   5

34 A tray holds 42 eggs.

How many trays are required for 4,032 eggs?

A 90 **B** 88 **C** 76 **D** 96 **E** 105

35 What time is 35 minutes after 09:45?

A 10:10 **B** 10:15 **C** 10:20 **D** 10:25 **E** 10:30

36 At East Herrington school the ratio of girls to boys is 5:7. There are 60 girls.

How many boys are there

A 46 **B** 56 **C** 80 **D** 84 **E** 97

37 A rectangle has an area of 96cm², and a length of 12cm.

What is the perimeter of the rectangle?

A 40cm **B** 48cm **C** 37cm **D** 44cm **E** 32cm

38 A car travels 180km in 3 hours. What is the average speed that the car travels at?

A 70km/h **B** 55km/h **C** 50km/h **D** 60km/h **E** 65km/h

39 If 5 pens cost £3.75, what is the cost of 8 pens?

A £5.60   **B** £6.00   **C** £7.20   **D** £6.80   **E** £6.40

40 A tank is full of water. Two-fifths of the water are used. One-third of the remaining water then evaporates.

What fraction of the original tank evaporates?

A ⅕   **B** ⅙   **C** ²⁄₉   **D** ⅓   **E** ⁴⁄₁₅

41 How many lines of symmetry does the star have?

A 5   **B** 6   **C** 15   **D** 10   **E** 8

42 A petrol tank is ⅗ full. 12 litres of petrol is added to make it ⅘ full. What is the capacity of the petrol tank?

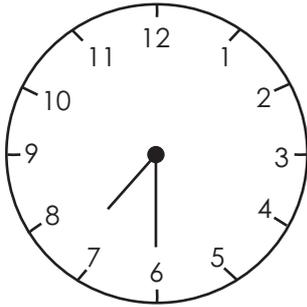**A** 56 litres   **B** 30 litres   **C** 60 litres   **D** 75 litres   **E** 42 litres

43 There is a jar of sweets. One-third of the sweets are eaten. A quarter of the remaining sweets are given away.
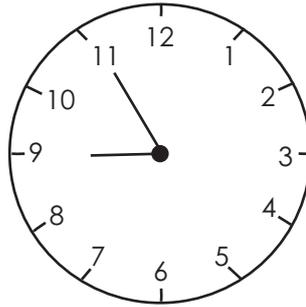
What fraction of the original jar was given away?

A ¹⁄₁₂   **B** ⅙   **C** ⅓   **D** ¼   **E** ⅑

44 Clock A is 16 minutes slow.
Clock B is 7 minutes fast.

Clock A   **Clock B**

What is the difference between the different times that the clocks should show?

A 1 hour
48 minutes

B 2 hours
2 minutes

C 100
minutes

D 1 hour
7 minutes

E 1 hour
2 minutes

45 What is 95% of £8.60?

A £8.32   **B** £8.36   **C** £8.50   **D** £8.17   **E** £8.10

46 $(2A)^3 = 216$

What is the value of A?

A 2   **B** 3   **C** 4   **D** 5   **E** 6

47 Rafael goes to his local shop to buy some food. He buys 3 tins of soup at £1.49 each and 4 yoghurts at 88p each.

How much change does Rafael get from a £10 note?

A £7.99   **B** £1.98   **C** £2.01   **D** £1.88   **E** £2.12

48   The length of one side of a cube is 5cm. What is the volume of the cube?

    A 25cm³   **B** 75cm³   **C** 100cm³   **D** 125cm³   **E** 150cm³

49   A train tickets costs £18. A family buys 3 tickets and uses a £10 voucher. How much do they pay?

    A £34   **B** £36   **C** £40   **D** £44   **E** £48

50   A school has 240 pupils. ⅜ of the pupils are in Key Stage 2.

How many pupils are in Key Stage 1?

    A 150   **B** 30   **C** 90   **D** 210   **E** 100

51   Here are five numbers:

22, 27, 23, 29, 13

Sofia chooses two numbers from the list.

How many possible combinations can she choose?

    A 8   **B** 6   **C** 10   **D** 12   **E** 14

52   Two angles in a triangle are 65° and 35°.

What is the range of the angles in the triangle?

    A 15°   **B** 30°   **C** 38°   **D** 42°   **E** 45°

53   Natalie is a freelance graphic designer. She uses the following formula to calculate her fee for a job:

£60 + £44 ×hours

If Natalie works for 6 hours a day for 5 days on a project, what will her fee be?

A £1,220   **B** £1,380   **C** £2,905   **D** £1,140   **E** £3,320

54   The hour hand and the minute hand of a clock are at an angle of 90° to each other.

Which of the following could be the correct time?

A 00:00   **B** 15:00   **C** 18:00   **D** 16:00   **E** 20:00

55   If ⅗ of a number is equal to 24, what is half of the number?

A 20   **B** 12   **C** 8   **D** 10   **E** 16

56   **84   126   168   210**

The four numbers above are alike in some way.

Which of the following is correct?

A   They are all cube numbers.

B   They are all divisible by 14.

C   They are all multiples of 21.

D   They are all divisible by 28.

E   They are all square numbers.

57 There are 48 students in a choir. Three times as many students sing soprano as sing alto.

How many students sing soprano?

A 12 **B** 18 **C** 24 **D** 30 **E** 36

58 48 × 125 = ☐ + 5625

Choose the option that correctly completes the number sentence.

A 74 **B** 375 **C** 286 **D** 124 **E** 48

59 A quadrilateral has exactly one pair of parallel sides. Two of its angles are each 90°.

Which of the following must be true?

A The shape is a rectangle.

B The shape has rotational symmetry.

C The shape is a trapezium.

D The shape has four equal sides.

E The shape has two lines of symmetry.

60 Five friends arrive at a cinema. There are exactly 5 empty seats in a row.

In how many different ways can the friends sit in the empty seats?

A 25 **B** 60 **C** 100 **D** 120 **E** 240

End of Paper