Sutton S.E.T Mock 1 Maths Paper

Name:

Contents: Maths (45 minutes)

- This paper starts with some instructions and further details on timings.

- All answers should be marked on the separate answer sheets provided.
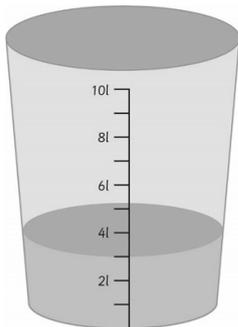
Mock Paper 1 – Maths

Read the instructions carefully.

1. This is a multiple-choice paper in which you have to mark your answer to each question on the separate answer sheet.

2. Draw a firm line clearly through the rectangle next to your answer like this ▬ . If you make a mistake, rub it out completely and put in your new answer.

3. You will have **45 minutes to answer 50 questions.**

4. You may find some of the questions difficult. If you cannot do a question, do not waste time on it, but go on to the next questions. If you are not sure of an answer, choose the one you think is best.

5. Work as quickly and as carefully as you can.

6. Make sure you can see a clock.

7. Allocate enough time to check your answers at the end.

1   A right-angled triangle has one angle that is 60°. 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?
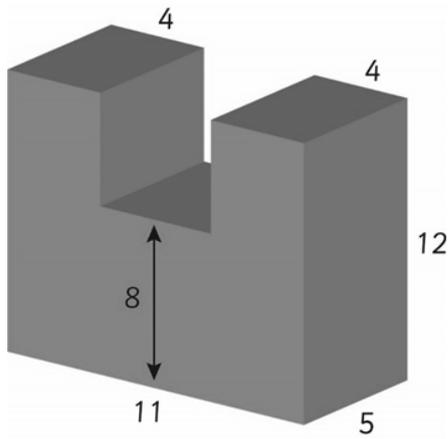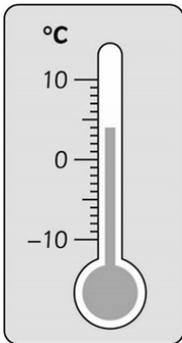
A   10:20pm

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°

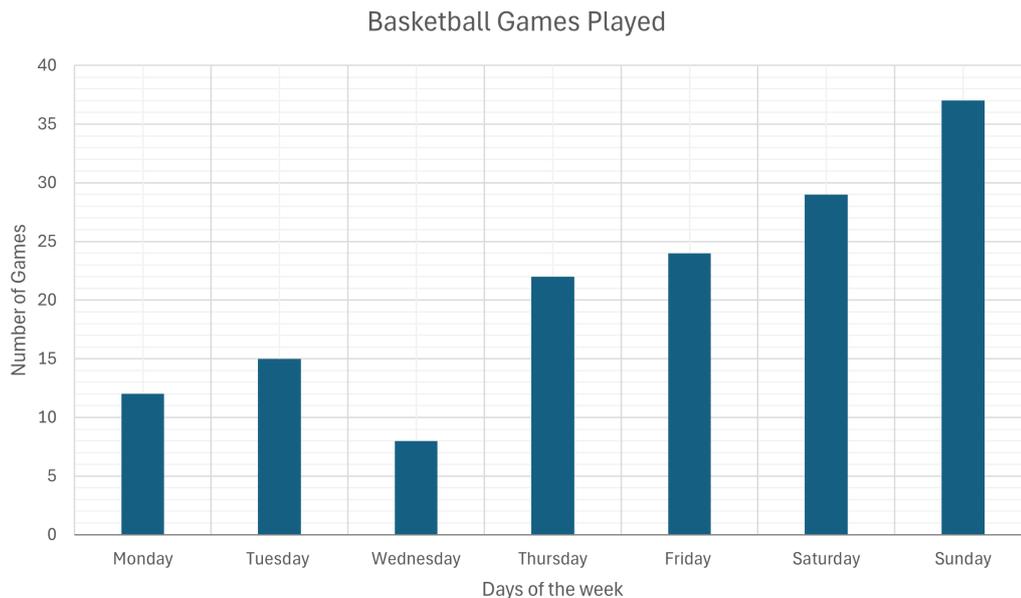B   -5°

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

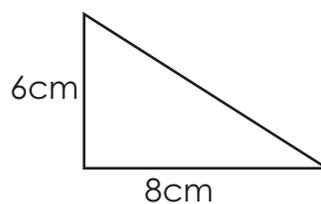E £2.00

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.

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   What is the lowest common multiple of 4 and 6?

   A   8

   B   12

   C   14

   D   16

   E   10

27   A planet rotates around a star in orbit once every 10 hours. How many orbits
           does the planet complete in two weeks?

   A   28

   B   30

   C   33

   D   34

   E   330

28   If 5 pencils cost £2.50, how much do 8 pencils cost?

   A   £0.50

   B   £3.50

   C   £4.00

   D   £4.50

   E   £5.00

29   What is the volume of a cube with a side length of 3m?

   A $9m^3$

   B $12m^3$

   C $18m^3$

   D $27m^3$

   E $30m^3$

30   Axel buys 3 notebooks at £1.20 each and 2 pens at £0.80 each. How much change will he get from £10?

   A   £4.20

   B   £4.80

   C   £3.60

   D   £5.20

   E   £6.40

31   A bag contains 3 red, 5 blue, and 4 green marbles. What is the probability of drawing a red marble?

A   ⅓

B   ⅔

C   ½

D   ¼

E   ¾

32   A train travels 180km in 2 hours. How long will it take the train to travel 1,260km?

A   8 hours

B   9 hours

C   12 hours

D   14 hours

E   21 hours

33   If a = 5, b = 3 and c = 7, what is the value of (8a + 3b) ÷ c ?

A   5

B   6

C   7

D   8

E   9

34   What is the area of a triangle with a base of 10cm and a height of 6cm?

   A   28cm^2

   B   60cm^2

   C   42cm^2

   D   30cm^2

   E   38cm^2

35   The mean of five numbers is 7. The mode of the five numbers is 5. If the median is 6, what is the sum of the two smallest numbers?

   A   6

   B   7

   C   8

   D   9

   E   10

36   A mobile phone contract costs £13.50 each month, plus an additional monthly charge of £3 for extra data. What is the total cost over the year?

   A   £147

   B   £154

   C   £162

   D   £181

   E   £198

37   What is the product of all the factors of 8?

A   36

B   64

C   16

D   32

E   24

38   What is 14,551g, rounded to the nearest kg?

A   145kg

B   1456kg

C   14.5kg

D   14kg

E   15kg

39   What is the difference between the number of vertices on a cuboid and the vertices on a triangular prism?

A   2

B   3

C   4

D   5

E   6

40   I think of a number. 6% of my number is 18. What number am I thinking of?

A   30

B   40

C   300

D   440

E   500

41   What is the missing number in this sequence? 2, 3, 4, 9, 16, 81, ?

A   48

B   56

C   81

D   177

E   256

42   How much must be added to seventy-eight thousand, nine hundred and twenty-two to make one million?

A   2,178

B   921,078

C   21,078

D   1,078

E   91,078

43 If the following numbers are put in order of size, which would come in the middle?

0.52   48%   ⅖   0.475   ⅜

A   0.52

B   48%

C   ⅖

D   0.475

E   ⅜

44 Liam and his sister share a box of chocolates in the ratio 5:3. If Liam's sister gets 21 chocolates, how many chocolates are in the box altogether?

A   35

B   56

C   42

D   48

E   24

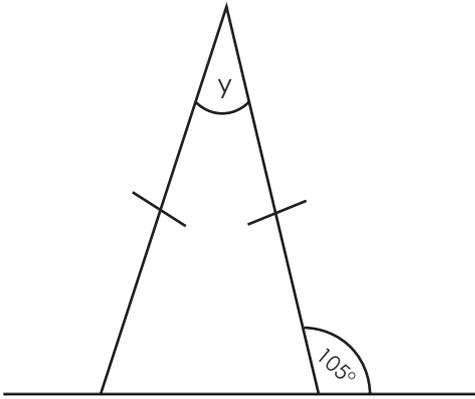**45** How many 5 millilitre teaspoons of medicine are needed to fill a 1.25 litre bottle?

A   250

B   200

C   150

D   500

E   125
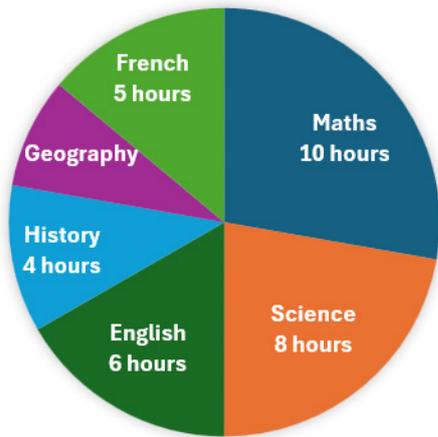
46   What is the size of angle y?

A   28°

B   30°

C   45°

D   60°

E   75°

47   In a school of 120 students, some students play football, some play basketball, and some play both. 85 students play football, and 60 students play basketball. If 45 students play both sports, how many students play neither?

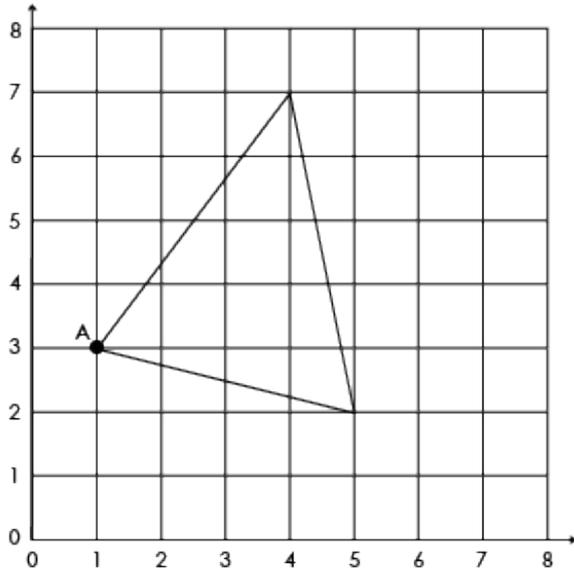A   10

B   15

C   20

D   25

E   30

48 This pie chart shows how Alex spends his time studying over one month. He spends a total of 36 hours studying.

How much time does Alex spend studying for geography?

A   2 hours

B   3 hours

C   4 hours

D   5 hours

E   6 hours

49 Using the pie chart above, what percentage of Alex's time is spent studying for maths and science?

A   20%

B   25%

C   40%

D   50%

E   55%

50 The triangle on the grid below has been translated 2 squares left and 3 squares down. What were the original coordinates of point A?

A   (0,-1)

B   (0,3)

C   (3,6)

D   (6,3)

E   (-1,0)

Working-out Space

END OF MATHS TEST