# MATHEMATICS

| |
|---|
| Name: _____ |
| Primary School: _____ |
| Boy or Girl: _____ |
| Date of Birth: _____ |
| Today's Date: _____ |
| Test taken at: _____ |

READ THE FOLLOWING CAREFULLY

**1. Do not open this booklet until you are told to do so.**

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

3. **Work as quickly and as carefully as you can.**

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

5. You will have **60 minutes** to do the 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 watch calculators) is <u>NOT</u> permitted.**

| NOT TO BE FILLED IN BY PUPIL | |
|---|---|
| TOTAL (60) | |
| % | |

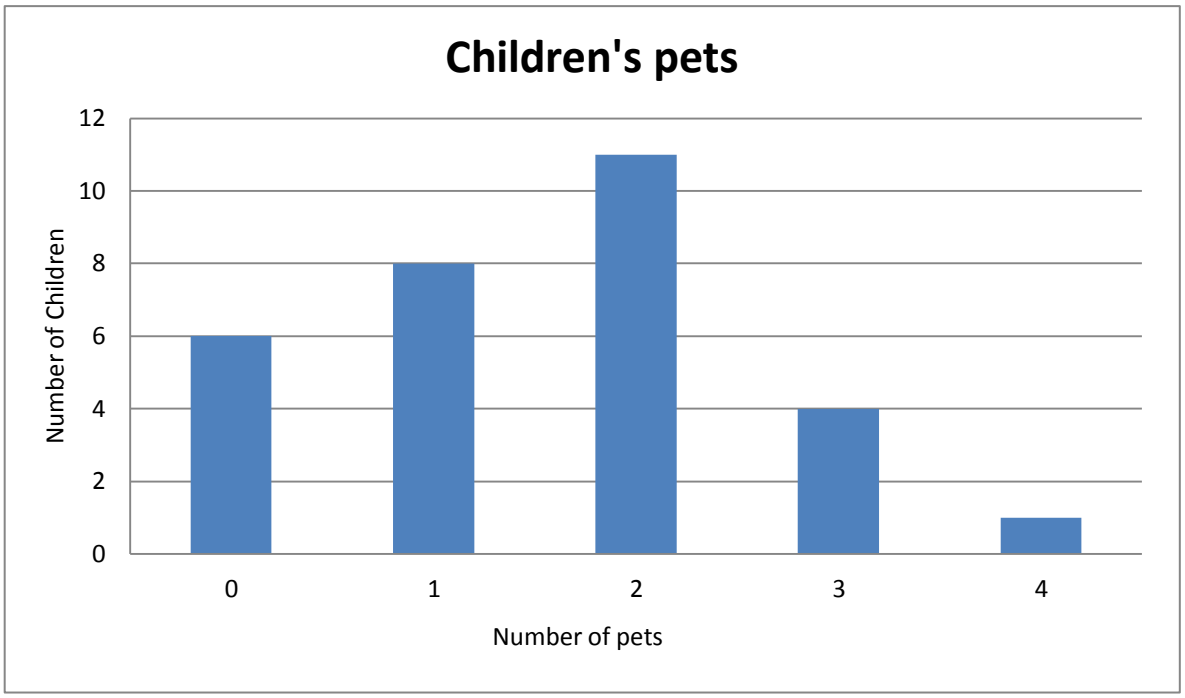
**You have sixty minutes to complete this paper.**
**Do your working out in the spaces on the paper.**

| Question (and working space) | Answer | Score |
|---|---|---|
| **1** a) Calculate 397 + 2184 | | |
| b) Add 28.37 and 6.48 | | |
| **2** a) Calculate 1641 – 795 | | |
| b) Find the difference between 7.15 and 2.43 | | |
| **3** a) Calculate 230 x 54 | | |
| b) What is the result of 12 multiplied by 3.41? | | |
| **4** a) Calculate 234 ÷ 13 | | |
| b) Divide 21 by 0.7 | | |
| | Total | |

| Question (and working space) | Answer | Score |
|---|---|---|
| **5** Each of the following calculations is incomplete. This is indicated by a question mark. For each part of the question, state the *missing digit only*. | | |
| a) 784 + 57 = 8?1 | ? = | |
| b) 2.36 + 6.?7 = 8.53 | ? = | |
| c) 3?7 – 143 =164 | ? = | |
| d) ? – 8 = –4 | ? = | |
| e) 15 x 1?4 = 2760 | ? = | |
| f) 1.68 ÷ 3 = 0.5? | ? = | |
| | Total | |

| Question (and working space) | Answer | Score |
|---|---|---|

**6** A group of children were asked how many pets they owned.
The results are shown in the bar chart below.

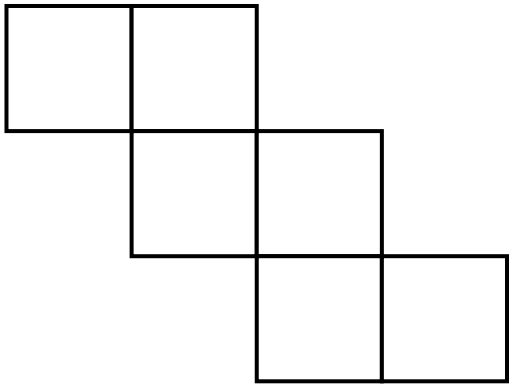



| | | |
|---|---|---|
| a) How many children had two pets? | | |
| b) How many children had more than 2 pets? | | |
| c) How many children were surveyed altogether? | | |
| | Total | |

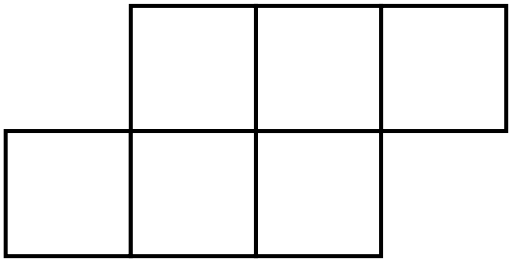
| Question (and working space) | Answer | Score |
|---|---|---|

**7** This question shows the net of three shapes. You must write "yes" if you think the net will fold up to make a closed cube and "no" if you think it will not fold up to make a closed cube.

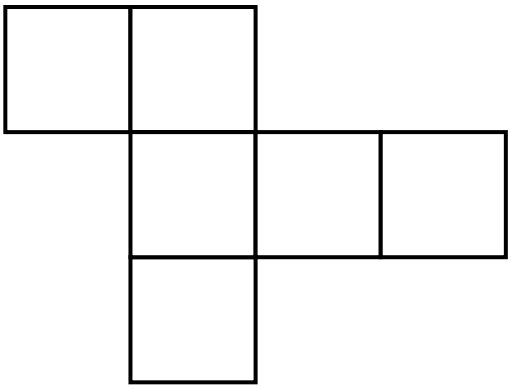
a) Will this net fold up to make a closed cube?



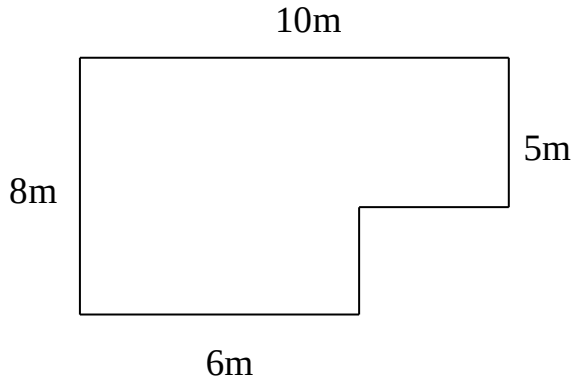
b) Will this net fold up to make a closed cube?



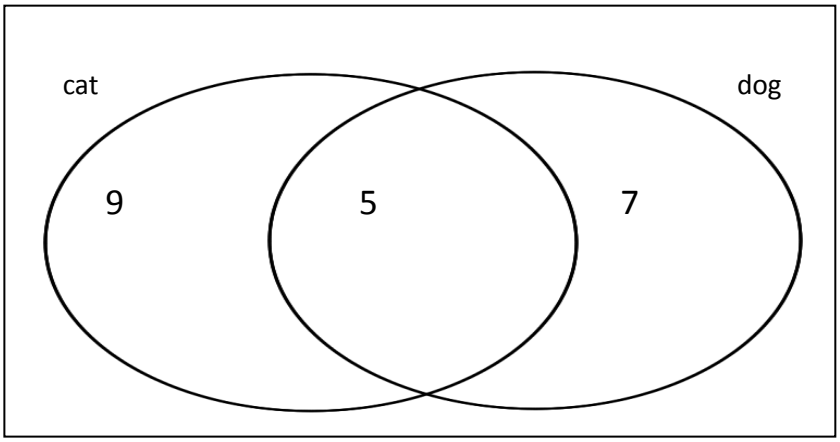
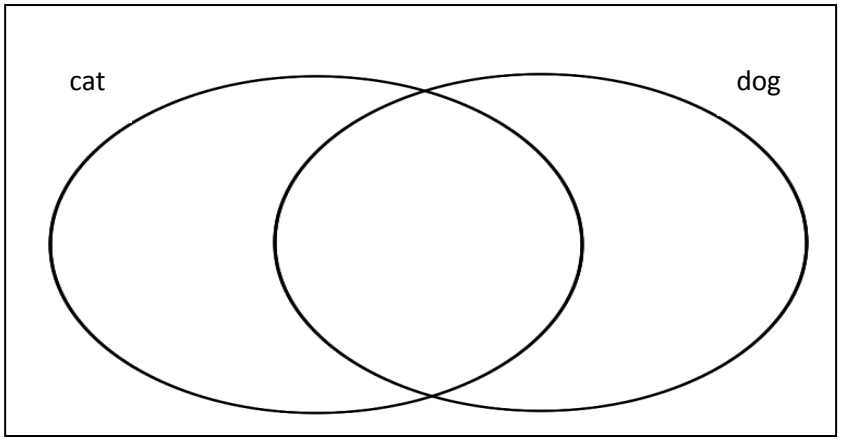
c) Will this net fold up to make a closed cube?



| | Total | |
|---|---|---|

| Question (and working space) | Answer | Score |
|---|---|---|
| **8** In each of the following calculations there is an error, which can be corrected by changing one digit **to the number 8.** In each case write *only* the digit which must be changed. | | |
| a) 75 – 23 = 47 | | |
| b) 43 + 65 + 19 = 130 | | |
| c) 503 – (7 x 24) = 311 | | |
| **9** Here is a plan of Dan's lounge which needs carpet.<br>  <br> | | |
| a) What is the total floor area of the lounge? | sq m | |
| b) How many carpet tiles, each 50cm x 50cm, would Dan need to cover the floor? | | |
| | Total | |

| Question (and working space) | Answer | Score |
|---|---|---|
| **10** In this question, letters of the alphabet are assigned number values:<br>A = 1, B = 2, C = 3, D = 4, ...<br><br>The **sum total** of a word is created by **adding** the value of the letters.<br><br>For example: the sum total of 'ACT' = 1 + 3 + 20 = 24 | | |
| a) What is the sum total of the word 'SHIP'? | | |
| b) List the following words in order of their sum total, starting with the lowest:<br><br>CORN RICE RYE HOPS | Lowest<br><br>----------<br><br>----------<br><br>----------<br><br>----------<br><br>Highest | |
| c) Which single letter has the same value as the result of dividing the sum total for 'TOY' by the sum total of 'CAB'?<br><br>TOY ÷ CAB = ..... | | |
| | Total | |

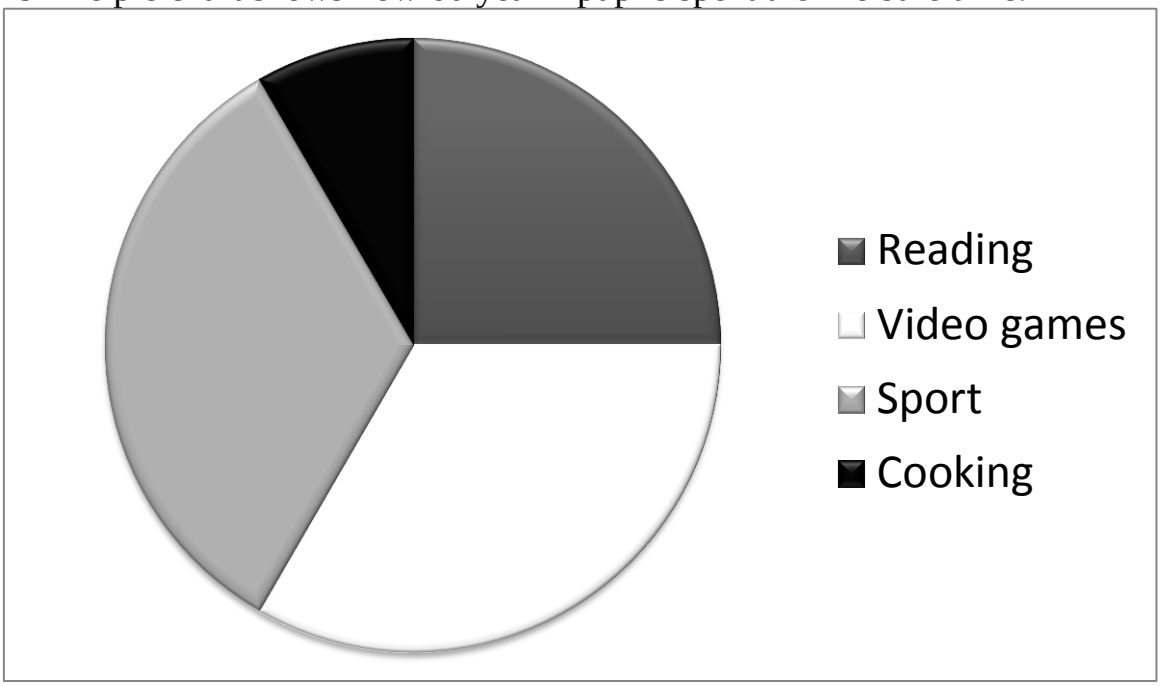
| Question (and working space) | Answer | Score |
|---|---|---|
| **11** A class of 25 pupils were each asked about whether they had a cat or a dog as a pet.<br>The results are shown in the Venn diagram.<br>  <br> | | |
| a) How many pupils had *only* a dog? | | |
| b) How many pupils had a cat? | | |
| c) How many pupils did not have a cat or a dog? | | |
| d) Another class of 25pupils were asked the same question.<br>18 pupils had a cat, 11 pupils had a dog and 3 pupils did not have a cat or dog.<br>Fully complete the Venn diagram below to show this information.<br>  <br> | | |
| | Total | |

| Question (and working space) | Answer | Score |
|---|---|---|
| **12** Refer to the price list below for this question:<br><br>Glitter pen ..... £1.45<br>Stickers ..... £1.15<br>Lollipop ..... 40p<br>Balloon ..... 35p<br>Party hat ..... 85p<br><br>Mrs Clark wants to make a party bag for each of the 18 children coming to her child's party. Each party bag must contain a packet of stickers, a lollipop and a party hat.<br>How much will she have to pay in total? | | |
| **13** a) How many metres are there in 3.7 km? | | |
| b) A piece of string is 4.23m long. Frances uses 187 cm of it.<br>How many centimetres of string does she have left? | | |
| **14** Complete the table below using the formula 3n + 2.<br>One has been done for you.<br><br>Complete the table with the two missing values.<br><br>2 marks | | |
| | Total | |

| n | 3n + 2 |
|---|---|
| 6 | 20 |
| 13 | |
| | 47 |

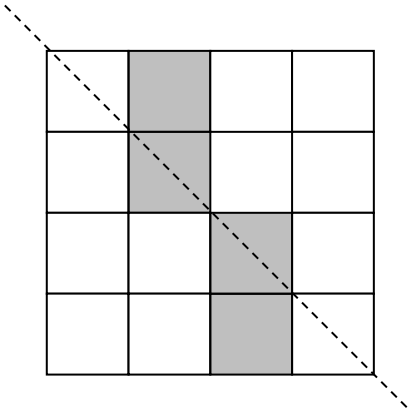
| Question (and working space) | Answer | Score |
|---|---|---|
| **15** The grid below is a magic square. Every row, column and diagonal must add to 30.<br><br>What value must be placed in the shaded box?<br><br>9 \| \| \|<br>\| 10 \| 3<br>\| \| \| | | |
| **16** This question concerns the number sequence that is formed starting at 1, then adding 4 to each term.<br><br>The first four terms of the sequence are: **1, 5, 9, 13, ...** | | |
| a) What is the eighth ($8^{th}$) term in the sequence? | | |
| b) What is the twelfth ($12^{th}$) term in the sequence? | | |
| c) What is the hundredth ($100^{th}$) term in the sequence? | | |
| | Total | |

| Question (and working space) | | Score |
|---|---|---|
| **17** This question involves five number cards:<br><br>2 4 7 8 9 | | |
| a) Use all five number cards to complete the following calculation.<br><br>□□□ − □□ = 656 | | |
| b) Use only three of the cards to complete the following calculation.<br><br>□ + □ x □ = 25 | | |
| **18** a) Write a number less than twenty that has a remainder of one when divided by 4. | Answer | |
| b) Which of the following numbers is a triangular number?<br><br>7 10 2 9 5 | | |
| c) Which three prime numbers multiply together to make 52? | | |
| | Total | |

| Question (and working space) | | Score |
|---|---|---|
| **19** The pie chart shows how 60 year 7 pupils spent their leisure time.<br>  <br> | | |
| a) How many pupils spend their leisure time reading? | Answer | |
| b) Five pupils spend their leisure time cooking. The same amount of pupils play video games as play sport. How many pupils play sport? | | |
| **20** Four children played in a ten pin bowling competition. Their scores after ten rounds were 52, 45, 68 and 44. | | |
| a) What was the average (mean) score? | | |
| b) Another child joined the same competition late. The average (mean) for the five children is now 55. What was the additional child's score? | | |
| | Total | |

| Question (and working space) | Answer | Score |
|---|---|---|
| **21** In this question, letters of the alphabet are assigned number values:<br>A = 1, B = 2, C = 3, D = 4, ...<br><br>The **product value** of a word is created by **multiplying** the value of the letters.<br><br>For example: the product value of 'HEAD' = 8 x 5 x 1 x 4 = 160 | | |
| a) What is the product total of the word 'DOG'? | | |
| b) List the following words in order of their product total, starting with the lowest:<br><br>GAME TOY PLAY RUN | Lowest<br><br>----------<br><br>----------<br><br>----------<br><br>----------<br><br>Highest | |
| c) Which three letter English word can be inserted to complete the sum below (adding with the product value of 'FIT' to make the product value of 'HIT'?<br><br>FIT + ..... = HIT | | |
| | Total | |

| Question (and working space) | Answer | Score |
|---|---|---|
| **22** Four sided shapes are known as quadrilaterals. There are several types of quadrilaterals including: square, rectangle, parallelogram, kite, delta (arrowhead), rhombus and trapezium.<br><br>Thinking about these different types, decide whether the following statements are true or false. | | |
| a) A square is the only quadrilateral which has four sides of equal length. True or false? | | |
| b) A rectangle is a type of parallelogram. True or false? | | |
| c) It is not possible to have a quadrilateral with an internal reflex angle. True or false? | | |
| d) A kite has only one line of reflective symmetry. True or false? | | |
| | Total | |

| Question (and working space) | Answer | Score |
|---|---|---|
| **23** Shade in 2 more squares to make this grid symmetrical through the mirror line.<br>  | | |
| **24** In the grid below, each number in the middle of a row or column is the average (mean) of the numbers on either side of it.<br><br>What value must be placed in the shaded box?<br><br>0.4 \| \| 2.4<br>\| \| \|<br>1.6 \| \| 2.0 | | |
| | Total | |

**END OF TEST (You should now have completed 24 questions.)**

# Maths Paper 1 Answers

| Question | Answer |
|---|---|
| LO- Written methods of computation. | |
| 1a | 2581 |
| 1b | 34.85 |
| 2a | 846 |
| 2b | 4.72 |
| 3a | 12420 |
| 3b | 40.92 |
| 4a | 18 |
| 4b | 30 |

| LO- To apply written methods of computation including inverses operations. | |
|---|---|
| 5a | 4 |
| 5b | 1 |
| 5c | 0 |
| 5d | 4 |
| 5e | 8 |
| 5f | 6 |

| LO- To read information from a graph. | |
|---|---|
| 6a | 11 |
| 6b | 5 |
| 6c | 30 |

| LO- To recognise nets of a 3D shape. | |
|---|---|
| 7a | Yes |
| 7b | No |
| 7c | Yes |

| LO- To apply written methods of computation including inverses operations. | |
|---|---|
| 8a | 3 |
| 8b | 5 |
| 8c | 7 |

| LO- To solve area problems. | |
|---|---|
| 9a | 68 |
| 9b | 272 |

| LO- To find the sum totals of letter values. | |
|---|---|
| 10a | 52 |
| 10b | Lowest<br>RICE=35<br>RYE = 48<br>CORN = 50<br>HOPS = 58<br>Highest |
| 10c | J |

| LO- To reads information from a Venn diagram. | |
|---|---|
| 11a | 7 |
| 11b | 14 |
| 11c | 4 |
| 11d<br>(1 mark for 2 or 3 answers.<br>2 marks for all 4 answers). | Cat (left side) = 11<br>Both (centre) = 7<br>Dog (right) = 4<br>Neither (outside) = 3 |

| LO- To solve money problems. | |
|---|---|
| 12 | £43.20 |

| LO- To solve measures problems. | |
|---|---|
| 13a | 3700 |
| 13b | 236 |

| LO- To solve algebra problems. | |
|---|---|
| 14a | 41 |
| 14b | 15 |

| LO- To add and subtract in Magic squares. | |
|---|---|
| 15 | 15 |

| LO- To solve and use a rule in a sequence. | |
|---|---|
| 16a | 29 (each term is 3 less than the 4x table. 4n-3) |
| 16b | 45 |
| 16c | 397 |

| LO- To apply written methods including inverses operations and BODMAS. | |
|---|---|
| 17a | 748 – 92 = 656 or<br>698 – 42 = 656 |
| 17b | 7 +9 x 2 =25,<br>7 + 2 x 9 = 25,<br>9 + 8 x 2 = 25 or<br>9 + 2 x 8 = 25 |

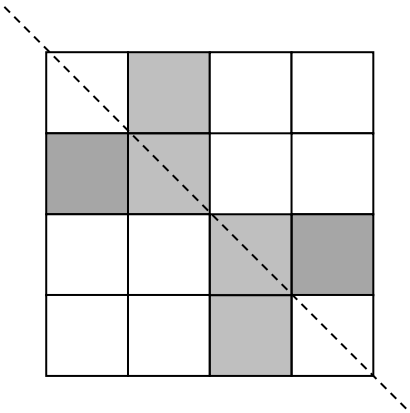
| LO- To recognise properties of numbers. | |
|---|---|
| 18a | 5, 9, 13 or 17 |
| 18b | 10 |
| 18c | 13 x 2 x 2 |

| LO- To read information from pie charts. | |
|---|---|
| 19a | 15 |
| 19b | 20 |

| LO- To solve average problems. | |
|---|---|
| 20a | 52.25 or 52 ¼ |
| 20b | 66 |
| LO- To find the product totals of letter values. | |
| 21a | 420 |
| 21b | Lowest<br>GAME = 455<br>PLAY = 4800<br>RUN = 5292<br>TOY = 7500<br>Highest |
| 21c | ART, RAT, TAR, LOB, RED, ELF or BIT (360) |

| LO- To recognise the properties of quadrilaterals. | |
|---|---|
| 22a | False (rhombus) |
| 22b | True (2 pairs of parallel sides) |
| 22c | False (delta/arrow head) |
| 22d | True |

LO- To recognise reflective symmetry.
23



| LO- To find averages in Magic squares. | |
|---|---|
| 24 | 1.6 |