

Mathematics Assessment

**Band 1 – Test 1**



**Calculators not allowed**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Remember:

* The test is 1 hour long.
* You **must not** use a calculator for any question in this test.
* You will need: pen, pencil, protractor, rubber and a ruler.
* Some formulae you might need are on the next page.
* Try to answer all questions.
* Write all your answers and working in the spaces provided in this test paper – do not use any rough paper. Marks may be awarded for working.
* Check your work carefully.
* Don’t spend too long on one question. Leave it and try the next one.

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| Formulae Sheet |
| Perimeter, area, surface area and volume formulae |
| Sphere | Cone |
|  |  |
| Volume = $\frac{4}{3}$πr3Surface Area = 4πr2 | Volume = $\frac{1}{3}$ πr2hCurved Surface Area = πrl |

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| **A – Ratio and Proportion** |
| 1. | Circle the **two** fractions below that are equivalent to $\frac{1}{3}$. $\frac{10}{300}$ $\frac{2}{6}$ $\frac{4}{12}$ $\frac{1}{30}$ $\frac{3}{10}$ | / 2 |
| 2. | Put these decimals in order from **smallest** to **largest**. 0.36 0.603 0.63 0.036 0.03 \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ | / 2 |
| 3. | Write the ratio 12 : 18 in its simplest form.\_\_\_\_:\_\_\_\_ | / 1 |
| **B – Number**  |
| 4. | -4 + 6 = \_\_\_\_ 8 x -3 = \_\_\_\_ | / 2 |
| 5. | Write the value of the 5 in the number 65 498.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | / 1 |
| 6. | From the bubble above, write down:A factor of 12 \_\_\_ A multiple of 3 \_\_\_ A prime number \_\_\_ | / 3 |
| 7. | Express 36 as a product of its prime factors.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | / 3 |
| 8. | 42 = \_\_\_\_ √81 = \_\_\_\_ | / 2 |
| **C - Algebra** |
| 9. | What are the next two terms of the sequence below:3, 7, 11, 15, \_\_\_\_, \_\_\_\_ | / 2 |
| 10. | What coordinate does point A represent? ( \_\_\_ , \_\_\_ )Show the coordinate (4, -2) on the grid above and label it B. | / 2 |
| 11. | Here is a table for a two-stage number machine.It multiplies by 2 then subtracts 1.Complete the missing numbers in the table.

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| **× 2, – 1** |
| **Input** | **Output** |
| 1 | 1 |
| 2 | 3 |
| 3 |  |
| 5 |  |
|  | 15 |

 | / 3 |
| **D – Shape, Space and Measure** |
| 12. | What type of triangle is this? What type of angle is this? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | / 2 |
| 13. | Measure the line below. Draw an angle of 50º. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   \_\_\_\_ cm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | / 2 |
| 14. | Draw all the lines of symmetry on the shape below. | / 2 |
| 15. | Calculate the area and perimeter of the rectangle below.Area = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cm²Perimeter = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cm | / 4 |
| 16. | Write down the number marked by the arrow.\_\_\_\_\_ | / 1 |
| 17. | Here is part of a train timetable from Crewe to London.At what time should the train leave Coventry? \_\_\_\_\_\_\_\_The train should arrive in London at 10 45. How long should the train take to travel from Crewe to London?  \_\_\_\_\_\_\_\_Verity arrived at Milton Keynes station at 09 53. How many minutes should she have to wait before the 10 10 train leaves? \_\_\_\_\_\_\_\_ | / 3 |
| **E – Data Handling** |
| 18. | Daniel carried out a survey of his friends’ favourite flavour of crisps. Here are his results.Plain Chicken Bovril Salt & Vinegar PlainSalt & Vinegar Plain Chicken Plain BovrilPlain Chicken Bovril Salt & Vinegar BovrilBovril Plain Plain Salt & Vinegar PlainComplete the table to show Daniel’s results. | / 3 |
| 19. | Here is a pictogram. It shows the number of boxes of chocolates sold last week from Monday to Friday.Write down the number of boxes of chocolates sold onMonday: \_\_\_\_ Wednesday: \_\_\_\_On Saturday, 100 boxes of chocolates were sold. Show this on the pictogram.On Sunday, 55 boxes of chocolates were sold. Show this on the pictogram. | / 4 |
| 20. | In a class of 28 students, 12 take Art, 5 take Drama, and 2 take both Art and Drama. How many students in the class do not take either Art of Drama? Use the Venn diagram below to help you.\_\_\_\_\_\_\_ students | / 2 |
| **F - Probability** |
| 21. | On the probability scale below, mark:with the letter S, the probability that it will snow in London in June,with the letter H, the probability that when a fair coin is thrown once it comes down heads,with the letter M, the probability that it will rain in Manchester next year. | / 3 |
| 22. | Adam eats in a cafe. He can choose **one** main course and **one** piece of fruit.

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| **Main Course**FishLambSalad | **Fruit**AppleBananaPear |

One possible combination is (Fish, Pear). Write down all the possible combinations that Adam can choose. The first one has been done for you.(F , P) | / 2 |