

Mathematics Assessment

**Band 1 – Test 3**



**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.

|  |
| --- |
| 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 $\frac{2}{7}$. $\frac{4}{14}$ $\frac{3}{21}$ $\frac{7}{14}$ $\frac{2}{70}$ $\frac{6}{21}$ | / 2 |
| 2. | Put these decimals in order from **smallest** to **largest**. 0.82 0.208 0.28 0.02 0.8 \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ | / 2 |
| 3. | Write the ratio 15 : 20 in its simplest form.\_\_\_\_:\_\_\_\_ | / 1 |
| **B – Number**  |
| 4. | 3 - -6 = \_\_\_\_ -5 x 2 = \_\_\_\_ | / 2 |
| 5. | Write the value of the 4 in the number 65 498.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | / 1 |
| 6. | From the bubble above, write down:A factor of 20 \_\_\_ A multiple of 2 \_\_\_ A prime number \_\_\_ | / 3 |
| 7. | Express 60 as a product of its prime factors.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | / 3 |
| 8. | 62 = \_\_\_\_ √49 = \_\_\_\_ | / 2 |
| **C - Algebra** |
| 9. | What are the next two terms of the sequence below:21, 17, 13, 9, \_\_\_\_, \_\_\_\_ | / 2 |
| 10. | What coordinate does point A represent? ( \_\_\_ , \_\_\_ )Show the coordinate (-3, -4) 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 adds 5.Complete the missing numbers in the table.

|  |
| --- |
| **× 2, + 5** |
| **Input** | **Output** |
| 1 | 7 |
| 2 | 9 |
| 3 |  |
| 5 |  |
|  | 21 |

 | / 3 |
| **D – Shape, Space and Measure** |
| 12. | What type of triangle is this? What type of angle is this? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | / 2 |
| 13. | Draw a line 3.5cm long below. Measure the angle.   \_\_\_\_ º \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | / 2 |
| 14. | Draw all the lines of symmetry on the shape below. | / 2 |
| 15. | Calculate the area and perimeter of the rectangle below.Area = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Perimeter = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | / 4 |
| 16. | Write down the number marked with an arrow.\_\_\_\_\_ | / 1 |
| 17. | Here is part of a train timetable from Crewe to London.At what time should the train leave Wolverhampton? \_\_\_\_\_\_\_\_The train should arrive in London at 10 45. How long should the train take to travel from Rugby to London?  \_\_\_\_\_\_\_\_Jessie arrived at Coventry station at 08 52. How many minutes should she have to wait before the 09 30 train leaves? \_\_\_\_\_\_\_\_ | / 3 |
| **E – Data Handling** |
| 18. | Fabio carried out a survey of his friends’ favourite ice cream flavours.

|  |  |  |  |
| --- | --- | --- | --- |
| Chocolate | Chocolate | Vanilla | Chocolate |
| Mint | Strawberry | Chocolate | Vanilla |
| Strawberry | Vanilla | Chocolate | Mint |
| Chocolate | Vanilla | Strawberry | Chocolate |

Complete the table to show Fabio’s results.

|  |  |  |
| --- | --- | --- |
| **Colour** | **Tally** | **Frequency** |
| Strawberry |  |  |
| Chocolate |  |  |
| Mint |  |  |
| Vanilla |  |  |

  | / 3 |
| 19. | The pictogram shows the number of diamond rings sold by a shop in January, February and March.

|  |  |
| --- | --- |
| January |  |
| February |  |
| March |  |
| April |  |
| May |  |

 Key represents 4 diamond rings.Write down the number of diamond rings sold in January. \_\_\_\_Work out how many **more** diamond rings were sold in March than in February. \_\_\_\_20 diamond rings were sold in April. 14 diamond rings were sold in May. Use this information to complete the pictogram. | / 4 |
| 20. | Out of 26 children, 6 were invited to only Cathy’s party and 8 children were invited to both Cathy and Amir’s party. 5 children were not invited to either. How many children were invited only to Amir’s party? Use the Venn diagram below to help you.\_\_\_\_\_\_\_ children | / 2 |
| **F - Probability** |
| 21. | Tom throws an ordinary coin once. On the probability scale, mark with a C the probability that the coin will show tails. Tom rolls an ordinary dice once. On the probability scale, mark with a D the probability that he will score a number less than 6. Tom takes a Maths test. On the probability scale, mark with a M the probability that he will score more than full marks.  | / 3 |
| 22. | Ishah spins a fair 5-sided spinner.She then throws a fair coin. List all the possible outcomes she could get.The first one has been done for you.(1, head)  | / 2 |