

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 = πr3  Surface Area = 4πr2 | Volume = πr2h  Curved Surface Area = πrl |

|  |  |  |
| --- | --- | --- |
| **A – Ratio and Proportion** | | |
| 1. | Circle the **two** fractions below that are equivalent to . | / 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 |