YEAR 9 TEST 2 Homework Assessment CALCULATOR ALLOWED Higher

NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TEACHER \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- | --- | --- |
| Area | /10 | Ratio | /10 | Sequences | /10 |

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| --- | --- | --- |
|  | **Area** |  |
| **1.****S** | Work out the area of this triangle.  ………………………… cm² | **(2)** |
| **2.****F** | *ABCD* is a trapezium.7 cmCalculate the area of the trapezium.  ………………………… cm² | **(2)** |
| **3.****F** | Here is a circle.The radius of the circle is 4 cm. Work out the area of the circle.Give your answer in terms of π.  ………………………… cm |  **(3)** |
| **4.****M** | The diagram shows a tile.The tile is in the shape of a semicircle of radius 8 cm.Work out the area of the tile. Give your answer correct to one decimal place.  ………………………… cm |  **(3)** |
|  | **TOTAL** | **(10)** |
|  |  |  |
|  | **Ratio** |  |
| **1.****F** | The cost of 6 cups is £8.40Work out the cost of 10 of these cups.  £………………………  | **(2)** |
| **2.****F** | A street map has a scale of 1 : 25000.Church Road is 4 cm long on the map.What is the actual length of Church road in kilometres? ………………… km | **(2)** |
| **3.****M** | Soap powder is sold in three sizes of box. 2 kg of soap powder costs £1.795 kg of soap powder costs £4.359 kg of soap powder costs £8.54Which size of box is the best value for money? Explain your answer. |  **(3)** |
| **4.****F** | A student bought a pair of sunglasses in the USA. He paid $34.50In England, an identical pair of sunglasses costs £27.99The exchange rate is £1 = $1.32In which country were the sunglasses cheaper, and by how much?Show all of your working. | **(3)** |
|  |  | **(10)** |
|  |  |  |
|  | **Sequences**  |  |
| **1.****F** | Here are the first four terms of a number sequence.

|  |  |  |  |
| --- | --- | --- | --- |
| 11  | 14  | 17  | 20  |

   a) Find the 10th term in this sequence. …………………………b) The number 100 is **not** a term in this sequence.       Explain why.      ...........................................................................................................................................      ........................................................................................................................................... |  **(1)** **(1)** |
| **2.****F** | Here are some patterns made from sticks. pattern 1 pattern 2 pattern 3a) How many sticks are needed for pattern number 9?  …………………………Sam says that there is a pattern which will need 78 sticks.b) Is Sam correct? You must give a reason for your answer.            ...........................................................................................................................................      ........................................................................................................................................... |  **(1)** **(1)** |
| **3.****F** | Here are the first five terms of a number sequence.41        37        33        29        25Write an expression, in terms of *n*, for the *n*th term of this sequence.        ………………………… | **(2)** |
| **4.****F** | The *n*th term of a different sequence is 3*n*2 – 2Find the 3rd term of this sequence.………………………… |  **(2)** |
| **5.****M** | Here are the first four terms of a quadratic sequence. 4 7 12 19 28What is the rule for the nth term of this sequence       ………………………… |  **(2)** |
|  |  | **(10)** |