YEAR 8 HOMEWORK ASSESSMENT TEST 2 – CALCULATOR Enhanced

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

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| Area | /10 | Ratio | /10 | Sequences | /10 | Probability | /10 |

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| --- | --- | --- |
|  | **Area** |  |
| **1.****F** | Mr Wood's garden is in the shape of a rectangle. Part of the garden is a patio in the shape of a triangle. The rest of the garden is grass. Work out the **area** of the **grass**.………………………… cm² |  **(3)** |
| **2.****S** | *ABCD* is a trapezium.9.5 cmCalculate the **area** of the **trapezium**.………………………… cm² |  **(2)** |
| **3.****S** | Here is a circle.The radius of the circle is 4 cm. Work out the **perimeter** of the circle.Give your answer correct to 1 decimal place. ………………………… cm |  **(2)** |
|  |  |  |
| **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)** |
|  |  | **(10)** |
|  |  |  |
|  |  **Ratio** |  |
| **1.****F** | The cost of **7 cups is £8.40**Work 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 £1.955 kg of soap powder costs £4.789 kg of soap powder costs £8.23Which size of box is the **best value** for money? **Explain** your answer. | **(3)** |
| **4.****M** | A student bought a pair of sunglasses in the USA. He paid $30.50In England, an identical pair of sunglasses costs £26.99The exchange rate is **£1 = $1.32**In which country were the sunglasses **cheaper**, and by **how much**?Show **all** of your working. | **(3)** |
|  |  | **(10)** |
|  |  |  |
|  | **Sequences**  |  |
| **1.****S** | Here are the first four terms of a number sequence.**10 13 16 19**   a) Find the **10th term** in this sequence.  …………………………b) The number 101 is **not** a term in this sequence.       **Explain** why.      ...........................................................................................................................................      ........................................................................................................................................... | **(1)****(1)** |
| **2.****F** | Here are the first five terms of a number sequence.**40        36        32        28        24**Write an expression, in terms of *n*, for the ***n*th term** of this sequence.        ………………………… | **(2)** |
| **3.****F** | The *n*th term of a different sequence is **3*n*2 – 2**Find the **3rd term** of this sequence.………………………… | **(2)** |
| **4.****M** | Here are the first four terms of a **geometric sequence**.**8 20 50 125 …**a) Write down the value of the **common ratio**.   …………………………b) Work out the **next term** in the sequence.        ………………………… |  **(1)** **(1)** |
| **5.****M** | This is a **quadratic** sequence:  **4, 10, 18, 28, 40**Find the rule for the **nth term**.………………………… |  **(2)** |
|  |  | **(10)** |
|  |  |  |
|  | Probability |  |
| **1.****S** | A bag contains coloured balls, all equal in size. A ball is selected at random.The probability of choosing a blue ball is .What is the probability of choosing a ball that is **not** blue. ……… |  **(1)** |
| **2.****F** | There are 240 pupils in Year 8. There are 135 males.There are 23 boys who wear glasses.There are 18 girls who wear glasses.Use this information to complete this frequency tree. |  **(2)** |
| **3.****F** | A computer game selects characters for players to use in a game. The table shows the probabilities of each character being chosen.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Amazing Alf | Brilliant Bert | Clever Chris | Daring Dave | Evil Ed |
| 0.13 | 0.29 | 0.2 | 0.3 |  |

a) Complete the missing probability for Evil Ed. b) Calculate probability that the character will be Clever Chris **or** Brilliant  Bert? ………… | **(1)** **(2)** |
| **4.****M** | A coin is thrown twice and the following tree diagram is produced.a) Complete this tree diagram. Use your tree diagram to calculate HTH……………………………………½ ½ b) the probability of at least one head. ………… |  **(2)** **(2)** |
|  | TOTAL | **(10)** |