**Year 10 Review HW Assessment 1 NON-CALCULATOR Core Standard**

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Teacher \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Number 1 | /10 | Algebra | /15 | Averages | /15 | Properties of numbers | /15 |

|  |  |  |
| --- | --- | --- |
|  | **Rounding Numbers** |  |
| **1.****S** | Write 9.367 correct to 2 decimal places. ……………………… | **(1)** |
| **2.****S** | Jamaica's Usain Bolt ran 100m in a time of 9.871 seconds.Round this correct to 2 significant figures.  ……………………… sec | **(1)** |
| **3.****S** | The maximum crowd at the Wembley arena is 12467.Write this correct to 3 significant figures.  ………………………  | **(1)** |
| **4.****S** | The mass of a grain of rice is 0.007512 kg.Write this correct to 1 significant figure.  ……………………… kg | **(1)** |
| **5.****S** | Estimate the value of: $\frac{47 ×613}{276}$  ……………………… | **(2)** |
| **7.****F** | A ticket for a seat at a school play costs £4.99There are 34 rows of seats. There are 16 seats in each row.The school will sell all the tickets. Work out an estimate for the total money the school will get. ……………………… | **(2)** |
| **10.****S** | An athlete’s mass was 65kg to the nearest kilogram.Write down the **least** possible mass of the athlete. ………………… kg | **(1)** |
| **11.****S** | The length of an exercise book was measure at 15.3cm to 1dp.What is the maximum length of the exercise book?………………………………… | **(1)** |
|  | **TOTAL** | **/10** |
|  |  |  |
|  | **Basic Algebra** |  |
| **1.****S** |

|  |  |  |  |
| --- | --- | --- | --- |
| a = 4 | b = -2 | c = 8 | d = 10 |

b) Find the value of:a) 2c + d = ……………………… b) 4d + 6b = ………………………c) 2a2 = ……………………… b) ½(a-b) = ……………………… | **(4)** |
| **6.****S** | Expand the following:a) 8(5*a* – 3)  ………………………b) 4a(a + 3) ……………………… | **(1)****(1)** |
| **7.****F** | Expand and simplify 9(2p + 3) + 2(4p – 5)  ……………………… | **(2)** |
| **9.****F** | Expand and simplify (p + 5)(p – 9) ……………………… | **(2)** |
| **10.****S** | Simplify the following:a) $a^{5}×a^{4}$ ……………………… b) $\frac{d^{7}×d}{d^{2}}$ ………………………c) (2e5)3  ………………………  | **(3)** |
| **12.****F** | a) Factorise 10a – 25 ………………………b) Factorise *x*2 + 9 *x* + 20 ……………………… | **(1)****(1)** |
|  | **TOTAL** | **/15** |
|  |  |  |
|  | **Averages** |  |
| **1.****S** | Farah recorded the minimum temperature, in °C, on each of five days in January.Here are her results.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Day | Mon | Tue | Wed | Thur | Fri |
| Temp (°C) | -6 | -1 | 3 | 1 | -2 |

Work out the mean of the temperatures Farah recorded. ……………………… °C | **(2)** |
| **2.****F** | Ed has 4 cards. There is a number on each card.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **8** |  | **12** |  | **6** |  | ……… |

The mean of the 4 numbers on Ed's cards is 9.Work out the number on the 4th card. | **(2)** |
| **3.****F** | Find the mean value of the following cards:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **7a + 10** |  | **9a**  |  | **2a - 2** |  | **6a + 12** |  ………………………… |

 | **(2)** |
| **4.****F** | Rosie recorded the age of some of her friends

|  |  |
| --- | --- |
| **Age** | **Frequency** |
| 10 | 4 |
| 11 | 6 |
| 12 | 2 |
| 13 | 1 |

Rosie said that the median age is 11.5. Rosie is wrong. Explain why.……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………… | **(2)** |
| **5.****F** | The age of 10 students is recorded in the table below.

|  |  |  |
| --- | --- | --- |
| Age | Frequency |  |
| 4 | 7 |  |
| 5 | 6 |  |
| 6 | 5 |  |
| 7 | 2 |  |
| Total |  |  |

a) Calculate out the mean age. ……………………b) Calculate out range. …………………… | **(2)****(1)** |
| **6.****F** | Vanessa asked 10 people how long it took them to complete their homework

|  |  |  |  |
| --- | --- | --- | --- |
| **Length of call (*t* minutes)** | **Frequency** |  |  |
| 0 < *t* ≤ 20 | 2 |  |  |
| 20 < *t* ≤ 40 | 5 |  |  |
| 40 < *t* ≤ 60 | 2 |  |  |
| 60 < *t* ≤ 80 | 1 |  |  |
| Total | 10 |  |  |

 a) Work out an estimate for the mean length of time spent doing homework. ……………………… b) Write down the modal class interval. …………………… | **(3)****(1)** |
|  | **TOTAL** | **/15** |
|  |  |  |
|  | **Number 2** |  |
| **1.****S** | Find the value of a) 53 ……………………… b) 104 ………………… c) (−2)3 ……………………d) 90 ……………………… e) 8-1 ………………… f) 4-2 …………………… | **(6)** |
| **4.****S** | Convert the following into standard form:a) 3 81 000 00 …………………………… b) 0.000 48 …………………………c) 73.4 x 105 …………………………… | **(3)** |
| **5.****S** | Re-write the following using normal notation:a) 6.8 x 103 ………………………b) 2.21 x 10-5 ……………………… | **(2)** |
| **6.****F** | Calculate the following (Give your answer in standard form). a) 7.1 x 106 + 3.4 x 105 b) (9 x 104) x (6 x 105)  …………………………………… …………………………………… | **(2)****(2)** |
|  | **TOTAL** | **/15** |