**Year 7 Core Standard: Assessment 1 Revision Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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|  | Topic 1: Negative Numbers | **Mark** |
| **1.** | Here is a list of numbers.  −9          −5          −3          −1          0          3          4          6  (a)     Write down **two** numbers from the list that add up to 5  Answer ................................ and ................................  (b)     Write down **two** numbers from the list that have a difference of 13  Answer ................................ and ................................  (c)     Write down **two** numbers from the list that multiply to give −15  Answer ................................ and ................................ | **(3)** |
| **2.** | The temperature was recorded at the same time each day.     |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Day** | Mon | Tue | Wed | Thu | Fri | Sat | | **Temperature (°C)** | 2 | 0 | 1 | −3 | −1 | −2 |   (a)     How much colder was it on Thursday than on Wednesday?  Answer ................................................................. °C  (b)     On Sunday, the temperature was 3°C lower than on Saturday.  What was the temperature on Sunday?  Answer ................................................................. °C | **(2)** |
| **3.** | Which of these numbers is 6 **less** than –1.4?  Circle your answer.  –8.4                        –7.4                        –2.0                        –4.6 | **(1)** |
| **4.** | Calculate  (a) 3 + - 2 = ……………… (b) 3 - - 4 = ………………  (c) -5 x -2 = ……………… (d) 15 - 5 = ……………… | **(4)** |

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|  | Topic 2: Algebraic Manipulation | **Mark** |
| **1.** | A car has 4 wheels. A bicycle has 2 wheels.  Write down an expression for the total number of wheels on *x* cars and *y* bicycles.  Answer ...................................................................... | **(1)** |
| **2.** | (a)     Circle the expression that is equivalent to        4 × *x*     |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | *x*4 | 4*x* | 4*x* | *x* × *x* × *x* × *x* |   (b)     Circle the expression that is equivalent to        *y* × *y* × *y*     |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | 3*y* | *y*2 | 3*y*2 | *y*3 |   (c)     Circle the expression that is equivalent to        *a* + *b*     |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | *b* + *a* | *ab* | *ba* | 2*ab* | | **(3)** |
| **3.** | Here are three expressions.  *a* − *b*                     *ab*  When   *a* = 2   and   *b* = −6   which expression has the smallest value?  You **must** show your working.  ..................................................................................................................................................................................  ..................................................................................................................................................................................  Answer ............................................ | **(2)** |
| **4.** | |  |  | | --- | --- | |  | Pay = £8 × number of hours worked |   (a)     Donna worked for five hours. Work out her pay.  ...................................................................................................................................................................................  Answer £ ...................................................................  (b)     Lee’s pay is £96. How many hours did he work?  ..................................................................................................................................................................................  Answer ............................................................ hours | **(2)**  **(2)** |

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|  | Topic 3: Averages | **Mark** |
| **1.** | Here are seven numbers.  **13              6              12              7              6              4              8**  (a) Work out the range of the seven numbers. Circle your answer.  5                      6                      7                      8                      9  (b)     What is the mode of the seven numbers? Circle your answer.  5                      6                      7                      8                      9 | **(1)**  **(1)** |
| **2.** | (a)     The scores on four ordinary, six-sided dice are put in order.  https://app.doublestruck.eu/content/AG_MA/HTML/Q/Q16JB1H08_files/img01.png  The median of the four scores is 0.5 **less** than the mean of the four scores.  Circle the value of the fourth score.  2                  3                  4                  5                  6  (b)     The dice are rolled again. The median of the scores is 0.5 **less** than the range. Work out a possible set of scores.  Answer ................... , ................... , ................... , .................. | **(1)**  **(2)** |
| **3.** | The table shows information about water used in a household.  Calculate the mean amount of water used.     |  |  |  | | --- | --- | --- | |  | **Month** | **Water used (m3)** | |  | January | 20 | |  | February | 12 | |  | March | 8 | |  | April | 15 | |  | May | 20 | |  | June | 9 |   Answer ............................................................................. m3 | **(3)** |
| **4.** | I am thinking of three positive numbers.  The mode is 5.  The median is 5.  The range is 9. Work out the three numbers.  Answer ....................... , ....................... , ....................... | **(2)** |

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|  | Topic 4: Number Properties | **Mark** |
| **1.** | *ξ* = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12}  S = square numbers E = even number   Complete the Venn diagram.  https://app.doublestruck.eu/content/AG_MAT/HTML/Q/QNS2F22_files/img01.png | **(3)** |
| **2.** | (a)     Work out the Highest Common Factor (HCF) of 24 and 42  Answer ......................................................................  (b)     As a product of prime factors        36 = 22 × 32  Write 48 as a product of prime factors.  Answer ...................................................................... | **(2)**  **(2)** |
| **3.** | Two electric cars are driven around a 10 kilometre track.  Both cars leave from the start line at the same time.  Car X travels at exactly 40 km/h Car Y travels at exactly 30 km/h  How many minutes will it be before they pass the start line together again?  Answer ......................................................... minutes | **(3)** |