**Year 9 Higher Standard: Assessment 1 Revision Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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|  | Topic 1: Rounding and estimation | Mark |
| 1. | a) Write 37 451 correct to 1 significant figure.……………………………b) Write 0.000 726 9 correct to 2 significant figure.…………………………… | (1)(1) |
| 2. | Work out an estimate for the value of  …………………………… | (2) |
| 3. | Work out an estimate for the value of …………………………… | (2) |
| 4. | Work out a) Write down all the figures on your calculator display.…………………………………………………………b) Give your answer to part (a) to 3 significant figures.…………………………… | (2)(1) |
| 5. | Kelly rounds a number, v, to 2 decimal places. The result is 7.48.Write down the range of possible values for v. ………………………………………………………… | (2) |
| 6. | Leo rounds a number, u, to 2 significant figures. The result is 5600.Write down the range of possible values for u. ………………………………………………………… | (2) |

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|  | Topic 2: Manipulating algebra | Mark |
| 1. | Simplifya) *x4* × *x5* = ………………… *b*)  = …………………c) 3s2*t* 3 × 4s4*t-2* = ………………… d) (*q3*)4 = ………………… | (2)(2) |
| 2. | Expand the brackets and simplify if possible.a) 4(2*x* – 3) …………………………b) *p*(*q* – *p²*) …………………………c) (*t* + 4)(*t* – 2)  ………………………… | (1)(1)(2) |
| 3. | Factorise each expression fully:a) *p*² + 6*p* …………………………b) 3*b*² + *b* …………………………c) 6*x*² – 9*xy*  …………………………d) 8 + 12*y* + 4*x* ………………………… | (1)(1)(2)(2) |
| 4. | a) Make *c* the subject of the formula *a* = 3*c* – 4 …………………………b) Make *a* the subject of the formula *s* =  + 8*u* ………………………… | (2)(2) |
| 5. |  *P* = *πr2* + 2*a* *a* = 84 *r* = 6.7Work out the value of *P*.Give your answer correct to 3 significant figures.  P = ………………………… | (2) |

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|  | Topic 3: Averages | Mark |
| 1. | The mean of eight numbers is 41.The mean of two of the numbers is 29.What is the mean of the other six numbers?  ………………………… | (3) |
| 2. | 20 students scored goals for the school hockey team last month.The table gives information about the number of goals they scored.

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| --- | --- | --- |
| Goals scored | Frequency |  |
| 1 | 9 |  |
| 2 | 3 |  |
| 3 | 5 |  |
| 4 | 3 |  |
| Total |  |  |

a) Write down the modal number of goals scored.…………………………b) Work out the range of the number of goals scored.…………………………c) Work out the mean number of goals scored.………………………… | (1)(1)(3) |
| 3. | Fred did a survey on the areas of pictures in a newspaper.The table gives information about the areas.

|  |  |  |  |
| --- | --- | --- | --- |
| Area (A cm2) | Frequency |  |  |
| 0 < *A* ≤ 10 | 38 |  |  |
| 10 < *A* ≤ 25 | 36 |  |  |
| 25 < *A* ≤ 40 | 30 |  |  |
| 40 < *A* ≤ 60 | 46 |  |  |
|  |  |  |  |

a) Write down the class interval containing the mode. …………………………a) Write down the class interval containing the median. …………………………c) Work out an estimate for the mean area of a picture. ………………………… | (1)(2)(4) |

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|  | Topic 4: Indices and standard form | Mark |
| 1. | Simplify and then evaluate:a) 30 = …………………………  b) 4-2 x 43 = …………………………c) 63 ÷ 6-1 = …………………………d) (23)2 = ………………………… | (1)(1)(1)(1) |
| 2. | Write the following in standard forma) 452 000 = …………………………b) 0.0034 = …………………………c) 9.1 million = …………………………d) 83 × 107 = …………………………e) 19.4 × 10-5 = ………………………… | (1)(1)(1)(1)(1) |
| 3. |  Write the following as ordinary numbers.a) 6.4 × 104 = …………………………b) 4.67 × 10-3 = ………………………… | (1)(1) |
| 4. |  Use your calculator to work out (3.4 × 1012) ÷ (1.2 × 10-3) Give your answer in standard form, correct to 3 significant figures.………………………… | (2) |
| 5. | *p* = 5 840 000*q* = 3.2 × 105Find the value of Give your answer in standard form, correct to 2 significant figures.  ………………………… | (2) |