**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. | Simplify  a) *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* = 6.7  Work 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.   |  |  |  | | --- | --- | --- | | 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 form  a) 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 × 105  Find the value of  Give your answer in standard form, correct to 2 significant figures.    ………………………… | (2) |