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| **Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Form \_\_\_\_\_\_\_\_**  | **Overall****\_\_\_\_\_\_%** |
| **Section A: Skills and Multiple Choice****Marks\_\_\_\_\_\_\_/29 \_\_\_\_\_\_\_%** | **Section B: Problem Solving****Marks\_\_\_\_\_\_\_/ 13 \_\_\_\_\_\_\_%** |



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| **Skills Covered** |
| **Skill** | **Topic** | **Skill** | **Topic** |
| 1 | Prime Factorisation | 7 | Converting Recurring Decimals to Fractions |
| 2 | Percentage Change | 8 | Area of quarter/semi |
| 3 | Estimation | 9 | Reverse Percentage Change |
| 4 | Ratio | 10 | Compound Interest |
| 5 | Positive laws of indices | 11 | Simplifying Algebraic Expressions |
| 6 | Negative/Fractional laws of indices | 12 | Expand and factorise linear |
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| **Section A: Multiple choice** |
| A. Circle the lowest common multiple of and.

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| 1 mark |
| B. Circle the largest number.

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| 4.1 |  | 4.11 | 4.111 |

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| 1 mark |
| C. Simplify fully Circle your answer.    |
| 1 mark |

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| **Section A: Skills** |
| 1. Write as a product of its prime factors. | 2. In a sale all items are reduced by 30%On the final day the **sale prices** are reduced by 20% Work out the **final day** price of a sofa that was priced at £290 before the sale started. |
| R A G  | 2 marks | R A G  | 3 marks |
| 3. Use approximations to estimate the value of You **must** show your working. | 4. Jake, Kim and Lee share some money in the ratio 1 : 3 : 6 Kim gets £9 **more** than Jake. How much does **Lee** get?  |
| R A G  | 2 marks | R A G  | 3 marks |
| 5. Write as a single power of  | 6. Work out the value of . |
| R A G  | 1 mark | R A G  | 2 marks |
| 7. Express as a fraction in its simplest form. | 8. The circumference of a circle of radius 4 cm is equal to the perimeter of a square.Work out the length of one side of the square. |
| R A G  | 2 marks | R A G  | 2 marks |
| 9. After a 12% increase the cost of a new cooker is £190.40Work out the original price of the cooker. | 10. A savings account pays 3.6% per annum compound interest.Heidi puts £400 into the account.How much will she have in the account after 5 years? |
| R A G  | 3 marks | R A G  | 2 marks |
| 11. Expand and simplify   | 12. Factorise fully  |
| R A G  | 2 marks | R A G  | 2 marks |
| **Section B - Problems** |
| 1. Jane has a carton of orange juice.The carton is in the shape of a cuboid. The depth of the orange juice in the carton is 8 cm.Jane closes the carton.Then she turns the carton over so that it stands on the shaded face.Work out the depth, in cm, of the orange juice now. |
|  | 3 marks |
| 2. The diagram shows two rectangles.All dimensions are in cmNot drawn accuratelyWork out an expression, in terms of , for the shaded area.Give your answer in its simplest form. |
|  | 3marks |

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| 3. The distance from Fulbeck to Ganby is 10 miles.The distance from Ganby to Horton is 18 miles.Raksha is going to drive from Fulbeck to Ganby.Then she will drive from Ganby to Horton.Raksha leaves Fulbeck at 10:00.She drives from Fulbeck to Ganby at an average speed of 40mph.Raksha wants to get to Horton at 10:35.Work out the average speed Raksha must drive at from Ganby to Horton. |
|  | 3 marks |
| 4. This shape is made from circles.The diameter of the larger circle is twice the diameter of the smaller circle. Not drawn accuratelyWhat fraction of the shape is shaded?Give your answer in its simplest form. |
|  | 4 marks |