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| **Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Form \_\_\_\_\_\_\_\_**  | **Overall****\_\_\_\_\_\_%** |
| **Section A: Skills and Multiple Choice****Marks\_\_\_\_\_\_\_/30 \_\_\_\_\_\_\_%** | **Section B: Problem Solving****Marks\_\_\_\_\_\_\_/ 13\_\_\_\_\_\_\_%** |



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| **Skills Covered** |
| **Skill** | **Topic** | **Skill** | **Topic** |
| 1 | Area of triangle | 7 | Percentage Change |
| 2 | Area of trapezium | 8 | Estimation |
| 3 | Area and circumference of circles | 9 | Ratio |
| 4 | Volume of prism | 10 | Positive laws of indices |
| 5 | Fraction Calculations | 11 | Negative/Fractional laws of indices |
| 6 | Prime Factorisation | 12 | Converting Recurring Decimals to Fractions |
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| **Section A: Multiple choice** |
| A. Which inequality is represented by this solution? Circle your answer.  |
| 1 mark |
| B. Circle the equation of the line that is parallel to

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| 1 mark |
| C. Circle the expression equivalent to

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| 1 mark |
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| **Section A: Skills** |
| 1. The area of this triangle is 78cm2. Find the height, , of the triangle. | 2. Calculate the area of the trapezium. |
| R A G  | 2 marks | R A G  | 2 marks |
| 3. The diagram shows a quarter circle of radius 12cm. Find the perimeter of the shape, give your answer in exact form.12 cm | 4. Here is a triangular prism. It has a volume of .Work out the height, *h*. 5 cm8 cm |
| R A G  | 2 marks | R A G  | 3 marks |
| 5. Work out Give your answer in its simplest form. | 6. Write 280 as a product of its prime factors |
| R A G  | 2 marks | R A G  | 2 marks |
| 7. A train fare costs £23.55All train fares are increased by 2.8% Work out the new fare. | 8. Use approximations to estimate the value of You **must** show your working. |
| R A G  | 2 marks | R A G  | 3 marks |
| 9. Ann, Bob and Carl share £480 in the ratio How much should each of them receive? | 10. and are whole numbers greater than 1.Work out two **different** pairs of values for and for which  |
| R A G  | 3 marks | R A G  | 2 marks |
| 11. Use your calculator to work out  | 12. Express as a fraction in its simplest form. |
| R A G  | 1 marks | R A G  | 3 marks |

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| **Section B - Problems** |
| 1. Suha has a full 600 ml bottle of wallpaper remover.She is going to mix some of the wallpaper remover with water.Here is the information on the label of the bottle.Suha is going to use 750 ml of water.How many millilitres of wallpaper remover should Suha use?You must show your working. |
|  | 4 marks |
| 2. Talil is going to make some concrete mix.He needs to mix cement, sand and gravel in the ratio 1 : 3 : 5 by weight.Talil wants to make 180 kg of concrete mix.Talil has 15 kg of cement 85 kg of sand 100 kg of gravelDoes Talil have enough cement, sand and gravel to make the concrete mix? |
|  | 4 marks |
| 3. is a positive integer. is a square number.What is the lowest possible value of ?You must show your working.  |
|  | 2 marks |
| 4. Mia has a rectangle of cloth.She dips the top of the cloth in blue dye.She dips the bottom of the cloth in yellow dye.blueyellowgreenNot drawn accuratelyThe part of the cloth that is dipped in both colours turns green.Work out the fraction of cloth that turns green.  |
|  | 3 marks |