|  |  |  |  |
| --- | --- | --- | --- |
| Year 8 | | *Further Algebraic Techniques* | Non Calculator  Section |
| |  | | --- | | **Skills and Knowledge Assessed:**   * Create algebraic expressions and evaluate them by substituting a given value for each variable (ACMNA176) * Extend and apply the distributive law to the expansion of algebraic expressions (ACMNA190) * Factorise algebraic expressions by identifying numerical factors (ACMNA191) * Factorise algebraic expressions by identifying algebraic factors. * Simplify algebraic expressions involving the four operations (ACMNA192) | | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Answer all questions in the spaces provided on this test paper by:  *Writing the answer in the box provided.*  or  *Shading in the bubble for the correct answer from the four choices provided.*  Show any working out on the test paper.Calculators are **not** allowed. | | | |
|  | Simplify | | |
|  | Simplify | | |
|  | ?  29 48 168 320 | | |
|  | Which product below gives an answer of | | |
|  |  | | |
|  |  | | |
|  |  | | |
|  | The table below is completed by substituting the *x* values given into   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  | A | B |   What two values should replace A and B? | | |
|  |  | | |
|  |  | | |
|  | Which is not a factor of | | |
|  | Factorise | | |
|  | Factorise | | |
|  | Factorise | | |
|  |  | | |
|  |  | | |
|  | Factorise | | |
|  | Factorise | | |
|  | Simplify | | |
|  | Complete the table of values below.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | 0 | 1 | 2 | 3 | |  |  |  |  |  | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Year 8 | | *Further Algebraic Techniques* | Calculator Allowed  Short Answer  Section |
|  | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Answer all questions in the spaces provided on this test paper by:  *Writing the answer in the box provided.*  or  *Shading in the bubble for the correct answer from the four choices provided.*  Show any working out on this test paper. Calculators are allowed. | | | |
|  | Simplify | | |
|  | Simplify | | |
|  | 10 11.1 12.2 13.2 | | |
|  | Write two algebraic terms which have a product of  × = | | |
|  |  | | |
|  |  | | |
|  |  | | |
|  | Complete the table below by substituting the *x* values given into   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | | | |
|  |  | | |
|  |  | | |
|  |  | | |
|  | Factorise | | |
|  | Factorise | | |
|  | Factorise | | |
|  |  | | |
|  |  | | |
|  | Factorise | | |
|  | Factorise | | |
|  | Simplify | | |
|  | Simplify | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Year 8 | | *Further Algebraic Techniques* | Non Calculator  Section |
| ANSWERS | | | |
| No. | WORKING | | ANSWER |
|  |  | | 3rd answer |
|  |  | | 1st answer |
|  |  | | 4th answer |
|  |  | | 3rd answer |
|  |  | | 1st answer |
|  |  | |  |
|  |  | |  |
|  | |  |  |  | | --- | --- | --- | |  |  |  | |  |  |  | | | 2nd answer |
|  |  | |  |
|  |  | |  |
|  |  | | 4th answer |
|  |  | | 2nd answer |
|  |  | |  |
|  |  | |  |
|  |  | | 4th answer |
|  |  | |  |
|  |  | | 1st answer |
|  |  | |  |
|  |  | | 2nd answer |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | 0 | 1 | 2 | 3 | |  | 0 | 4 | 10 | 18 | | | 4 answers in table. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year 8 | | *Further Algebraic Techniques* | Calculator Allowed  Short Answer  Section | |
| ANSWERS | | | | |
| No. | WORKING | | | ANSWER |
|  |  | | | 2nd Answer |
|  |  | | | 4th Answer |
|  |  | | | 1st Answer |
|  | Several possibilities.  e.g. | | | Any two terms with required product. |
|  |  | | | 3rd Answer |
|  |  | | |  |
|  |  | | |  |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  | 7 | 10 | | | | 7 and 10 in last 2 boxes |
|  |  | | |  |
|  |  | | |  |
|  |  | | | 4th Answer |
|  |  | | | 1st Answer |
|  |  | | |  |
|  |  | | |  |
|  |  | | | 3rd Answer |
|  |  | | |  |
|  |  | | | 2nd answer |
|  |  | | |  |
|  |  | | | 4th answer |
|  |  | | |  |