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| *School Name*  *Mathematics Test 2017* | | | |
| Year 9 | | *Basic Algebra Skills* | Non Calculator |
| **Skills and Knowledge Assessed:**   * Simplify algebraic expressions involving the four operations (ACMNA192) * Extend and apply the distributive law to the expansion of algebraic expressions (ACMNA190) * Factorise algebraic expressions by identifying numerical factors (ACMNA191) | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Section 1** Short Answer Section | | | |
| Write all working and answers in the spaces provided on this test paper. | | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Given that  find the value of  ………………………………………………………………………………………………. | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Simplify  ………………………………………………………………………………………………. | | |
|  | Given that , find the value of .  ………………………………………………………………………………………………. | | |
|  | Given that  find the value of  ………………………………………………………………………………………………. | | |
|  | Simplify,  ………………………………………………………………………………………………. | | |
|  | Expand  ………………………………………………………………………………………………. | | |
|  | Expand  ………………………………………………………………………………………………. | | |
|  | Simplify completely  ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | | |
|  | If  complete the table of values for *x* and *y*.     |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | -1 | 0 | 1 | 2 | |  |  |  |  |  | | | |
|  | Expand and simplify  ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | | |
|  | Expand and simplify  ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | | |
|  | Simplify, leaving your answer as an index:  ………………………………………………………………………………………………. | | |
|  | Simplify  ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | | |
|  | Factorise  ………………………………………………………………………………………………. | | |
|  | Factorise  ………………………………………………………………………………………………. | | |

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| *School Name*  *Mathematics Test 2017* | | | |
| Year 9 | | *Basic Algebra Skills* | Calculator Allowed |
| Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Section 2** Multiple Choice Section | | | |
| Mark all your answers on the accompanying multiple choice answer sheet, not on this test paper. You may do any working out on this test paper. Calculators are allowed for this section. | | | |
|  | A.  B.  C.  D. | | |
|  | Which of the following is not the same as | | |
|  | Which of these statements is the same as the algebraic expression ?  A. Double *f* and add *g*  B. Twice the sum of *f* and *g*  C. The sum of *f* and twice *g*  D. The sum of twice *f* and *g* | | |
|  | Simplify    A.  B.  C.  D. | | |
|  | Simplify  A.  B.  C.  D. | | |
|  | A. 3 B. 6 C. 9 D. 12 | | |
|  | Which expression is equal to  A.  B.  C.  D. | | |
|  | A. –12 B. 12 C. 28 D. 36 | | |
|  | Let *n* be an odd number.  Which is an expression for the sum of the next three consecutive odd numbers after (but not including) *n*.  A.  B.  C.  D. | | |
|  | A.  B.  C.  D. | | |
|  | Which of the following is **not** a factor of  A.  B.  C.  D. | | |
|  | Factorise  .  A.  B.  C.  D. | | |
|  | Expand and simplify .  A.  B.  C.  D. | | |
|  | When  is fully factorised, the result is:  A.  B.  C.  D. | | |
|  | Factorise fully:  A.  B.  C.  D. | | |
|  | Michael completed the table below for the equation     |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | –2 | 0 | 1 | 3 | |  | 14 | 8 | 5 | 1 |   Which y value is incorrect?  A.  B.  C.  D. | | |

*School Name*

*Mathematics 2017*

*Multiple Choice Answer Sheet*

*Basic Algebra Skills*

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Completely fill the response oval representing the most correct answer.

1. A B C D

2. A B C D

3. A B C D

4. A B C D

5. A B C D

6. A B C D

7. A B C D

8. A B C D

9. A B C D

10. A B C D

11. A B C D

12. A B C D

13. A B C D

14. A B C D

15. A B C D

16. A B C D

|  |  |  |
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| *School Name*  *Mathematics Test 2017* | | |
| Year 9 | *Basic Algebra Skills* | Non Calculator Section |

ANSWERS

| Question | Working and Answer |
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|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | -1 | 0 | 1 | 2 | |  | **-10** | **-6** | **-2** | **2** | |
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| *School Name*  *Mathematics Test 2017* | | |
| Year 9 | *Basic Algebra Skills* | Calculator Allowed  Multiple Choice  Section |

ANSWERS

|  |  |  |
| --- | --- | --- |
| Question | Working | M C Answer |
|  |  | **C** |
|  |  | **D** |
|  | The sum of *f* and *g = f + g.* Twice this becomes *2*(*f + g*). | **B** |
|  |  | **A** |
|  |  | **D** |
|  |  | **B** |
|  |  | **A** |
|  |  | **C** |
|  |  | **D** |
|  |  | **B** |
|  | So 8*a* is not a factor. | **C** |
|  |  | **A** |
|  |  | **C** |
|  |  | **A** |
|  |  | **B** |
|  |  | **D** |

*School Name*

*Mathematics 2017*

*Multiple Choice Answer Sheet*

*Basic Algebra Skills*

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Completely fill the response oval representing the most correct answer.

1. A B C D

2. A B C D

3. A B C D

4. A B C D

5. A B C D

6. A B C D

7. A B C D

8. A B C D

9. A B C D

10. A B C D

11. A B C D

12. A B C D

13. A B C D

14. A B C D

15. A B C D

16. A B C D