|  |  |  |  |
| --- | --- | --- | --- |
| 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 1Short 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, leaving your answer as an index :  ………………………………………………………………………………………………. | | |
|  | 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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| Year 9 | | *Basic Algebra Skills* | Calculator Allowed |
| Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Section 2Multiple 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. | | |
|  |  | | |
|  | Richard says to Amber: *“I doubled x and added y.”*  Which of these algebraic expressions could represent this?  A.  B.  C.  D. | | |
|  | Simplify    A.  B.  C.  D. | | |
|  | Simplify  A.  B.  C.  D. | | |
|  | When  ,  A.  B.  C. 26 D. 44 | | |
|  | Which of these is equal to  A.  B.  C.  D. | | |
|  | A. -3 B. -2 C. 2 D. 3 | | |
|  | Which algebraic expression below represents :  “The square of the product of *m* and *n*.”  A.  B.  C.  D. | | |
|  | A.  B.  C.  D. | | |
|  | Which of the following is **not** a factor of  A.  B.  C.  D. | | |
|  | When  is fully factorised, the result is:  A.  B.  C.  D. | | |
|  | Expand and simplify  A.  B.  C.  D. | | |
|  | Factorise  A.  B.  C.  D. | | |
|  | The table below is completed for  . What values should go at K and M?     |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | -1 | 0 | 1 | 2 | |  | K | 12 | M | 4 |   A. K = 16 and M = 8. B. K = 8 and M = 16.  C. K = 20 and M = 10. D. K = 20 and M = 18. | | |

# Basic Algebra Skills

# Multiple Choice Answer Sheet

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

*Basic Algebra Skills*

# ANSWERS

|  |  |
| --- | --- |
| Section 1 ( 1 mark each) | |
|  | Working and Answers |
|  |  |
|  |  |
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|  |  |
|  |  |
|  | When |
|  |  |
|  |  |
|  |  |
|  | When |
|  | When |
|  |  |
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|  |  |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | -1 | 0 | 1 | 2 | |  | -10 | -6 | -2 | 2 | |
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|  |  |  |
| --- | --- | --- |
| Section 2 (1 mark each) | | |
|  | Working | Answers |
|  |  | A |
|  |  | C |
|  | *I doubled x and added y becomes 2x + y* | B |
|  |  | D |
|  |  | C |
|  |  | B |
|  |  | C |
|  |  | A |
|  | The square of the product of *m* and *n* becomes | D |
|  |  | D |
|  |  | B |
|  |  | C |
|  |  | D |
|  |  | A |
|  |  | A |

# Basic Algebra Skills

# Multiple Choice Answer Sheet

Name \_\_\_ Marking Sheet

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