|  |  |  |  |
| --- | --- | --- | --- |
| Year | | *Simultaneous Equations* | Non Calculator  Section |
| **Skills and Knowledge Assessed:**   * Solve linear simultaneous equations, using algebraic and graphical techniques including using digital technology (ACMNA237) | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Section 1** Short Answer Section | | | |
| Write all working and answers in the spaces provided on this test paper. | | | |
|  | Use an algebraic method to solve simultaneously  ..........................................................................................................................................................    .......................................................................................................................................................... | | |
|  | Use an algebraic method to solve simultaneously  ..........................................................................................................................................................    ..........................................................................................................................................................  .......................................................................................................................................................... | | |
|  | What is the *y* value of the point of intersection of .  ..........................................................................................................................................................    ..........................................................................................................................................................    .......................................................................................................................................................... | | |
|  | Find the value of *m* which satisfies  simultaneously.  ..........................................................................................................................................................    ..........................................................................................................................................................  .......................................................................................................................................................... | | |
|  | Give the value of *p* for which the equations hold simultaneously.  ..........................................................................................................................................................    ..........................................................................................................................................................  .......................................................................................................................................................... | | |
|  | Find the *x* coordinate of the point of intersection of  ..........................................................................................................................................................    ..........................................................................................................................................................  .......................................................................................................................................................... | | |

|  |  |
| --- | --- |
|  | Questions 7 – 11 refer to the graph below. |
|  | Sketch  on the graph above |
|  | Sketch  on the graph above. |
|  | Solve simultaneously:  .......................................................................................................................................................... |
|  | Solve simultaneously:  .......................................................................................................................................................... |
|  | Solve simultaneously:  .......................................................................................................................................................... |

|  |  |  |  |
| --- | --- | --- | --- |
| Year | | *Simultaneous Equations* | Calculator Allowed  Section |
|  | 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. | | | |
|  | Solve simultaneously  A.  B.  C.  D. | | |
|  | Solve simultaneously  A.  B.  C.  D. | | |
|  | When the equations below are solved simultaneously;      A.  B.  C.  D. | | |
|  | The solution to a pair of simultaneous equations is shown:    In which line does a mistake occur?   1. Line 1 B. Line 2 C. Line 3 D. Line 4 | | |
|  | Solve simultaneously  A.  B.  C.  D. | | |
|  | When the equations below are solved simultaneously;  A.  B.  C.  D. | | |
|  | Question 7 – 9 refer to the graph below. | | |
|  | Solve  A. (4, 0) B. (0, 0) C. (2, -2) D. (0, 4) | | |
|  | Solve  A. (0, 4) B. (2, -2) C. (4, 0) D. (10, 14) | | |
|  | Solve  A. (0, 4) B. (2, -2) C. (4, 0) D. (10, 14) | | |

|  |  |  |
| --- | --- | --- |
| Year | *Simultaneous Equations* | Calculator Allowed  Section |
|  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Section 3** Longer Answer Section | | |
| Write all working and answers in the spaces provided on this test paper. | | |

|  | | **Marks** |
| --- | --- | --- |
|  | Solve these pairs of equations simultaneously: |  |
|  | a)  ……………………………………………………………………………………………….  ……………………………………………………………………………………………….  ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | **3** |
|  | b)  ……………………………………………………………………………………………….  ……………………………………………………………………………………………….  ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | **3** |
|  | Hannah is buying furniture for a guesthouse. One day she is pays $480 for 8 chairs and one table, and shortly afterward pays $915 for 15 chairs and 2 tables of the same type. There had been no change in the prices of the chairs and tables. Write two equations and solve them simultaneously to find the individual price of the chairs and tables.  ……………………………………………………………………………………………….  ……………………………………………………………………………………………….  ……………………………………………………………………………………………….  ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | **3** |

*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

*Simultaneous Equations*

ANSWERS

|  |  |
| --- | --- |
| Section 1 | |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
|  |  |
|  | *See graph* |
|  | *See graph* |
|  | *A* (3, -2) |
|  | *B* (-1, -6) |
|  | *C* (4, -4) |

|  |  |
| --- | --- |
| Section 2 | |
|  | B |
|  | A |
|  | D |
|  | B |
|  | C |
|  | C |
|  | D |
|  | B |
|  | D |

|  |  |
| --- | --- |
| Section 3 | |
|  | a) |
|  | b) |
|  |  |

*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