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| Year  10 | | Mathematics Test  Simultaneous Equations | | Calculator Allowed |
| Short Answer Section | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | Write all working and answers in the spaces provided on this test paper. | | | |
| 1. | Solve simultaneously  ..........................................................................................................................................................    .......................................................................................................................................................... | | | |
| 2. | Solve simultaneously  ..........................................................................................................................................................    ..........................................................................................................................................................  .......................................................................................................................................................... | | | |
| 3. | Solve simultaneously  ..........................................................................................................................................................    ..........................................................................................................................................................    .......................................................................................................................................................... | | | |
| 4. | Solve simultaneously  ..........................................................................................................................................................    ..........................................................................................................................................................  .......................................................................................................................................................... | | | |
| 5. | Solve simultaneously  ..........................................................................................................................................................    ..........................................................................................................................................................  .......................................................................................................................................................... | | | |
| 6. | Solve simultaneously  ..........................................................................................................................................................    ..........................................................................................................................................................  .......................................................................................................................................................... | | | |
|  | Questions 7 – 10 refer to the graph below. | | | |
| 7. | Solve  .......................................................................................................................................................... | | | |
| 8. | Sketch  on the graph above and use this to solve  .......................................................................................................................................................... | | | |
| 9. | Sketch  on the graph above and use this to solve  .............................................................................  ............................................................................. | | | |
| 10. | Use the graph to solve  .......................................................................................................................................................... | | | |

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| Year  10 | | Mathematics Test  Simultaneous Equations | | Calculator Allowed |
| Multiple Choice Section | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | 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. | | | |
| 1. | Solve simultaneously  A.  B.  C.  D. | | | |
| 2. | When the equations below are solved simultaneously;      A.  B.  C.  D. | | | |
| 3. | 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 | | | |
| 4. | Solve simultaneously  A.  B.  C.  D. | | | |
| 5. | When the equations below are solved simultaneously;  A.  B.  C.  D. | | | |
|  | Question 6 – 8 refer to the graph below. | | | |
| 6. | Solve  A. (-3, 3) B. (0, 0) C. (1, -1) D. (5, 11) | | | |
| 7. | Solve  A. (-3, 3) B. (0, 0) C. (1, -1) D. (5, 11) | | | |
| 8. | Solve  A. (-3, 3) B. (0, 0) C. (1, -1) D. (5, 11) | | | |

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| Year  10 | | | | Mathematics Test  Simultaneous Equations | | Calculator Section |
| Longer Questions | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | Write all working and answers in the spaces provided on this test paper.  Calculators are allowed for this section. | | | | | |
| 1. | (a)  3 marks | On the graph below, draw the lines  . | | | | |
| (b)  1 mark | Solve  .......................................................................................................................................................... | | | | |
| (c)  1 mark | Solve  .......................................................................................................................................................... | | | | |
| 2. | Solve the simultaneous equations below, using any method; however you need to show all of the working for your solution. | | | | | |
|  | a)  2 marks | | 1Solve  ........................................................................................................................................................    ........................................................................................................................................................  ........................................................................................................................................................ | | | |
| b)  2 marks | | Solve  ........................................................................................................................................................    ........................................................................................................................................................  ........................................................................................................................................................ | | | |
| (c)  3 marks | | Solve  ........................................................................................................................................................    ........................................................................................................................................................  ........................................................................................................................................................ | | | |
| 3. | A salesman sells 5 pens and 6 books to one customer for $136 and 8 pens and 4 books to another for $128. | | | | | |
|  | (a)  2 marks | | Write equations for each sale using *p* for the cost of a pen and *b* for the cost of a book.  ...................................................................................................................................  ………........................................................................................................................ | | | |
| (b)  2 marks | | Solve the equations simultaneously to find the cost of one pen and the cost of one book.  ...................................................................................................................................  ……….......................................................................................................................  ................................................................................................................................... | | | |

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| Year  10 | Mathematics Test  Simultaneous Equations | |  |
| Multiple Choice Section  Answer Page | 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

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|  | Mathematics Test  Simultaneous Equations |
| Answer Sheet |

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| Short Answer | |
| 1 | (3, 5) |
| 2 | (-2, -2) |
| 3 | (0, 2) |
| 4 |  |
| 5 | (2, -1) |
| 6 | (5, 1) |
| 7 | (4, 2) |
| 8 |  |
| 9 |
| 10 | (-1, -1) |

|  |  |
| --- | --- |
| Multiple Choice | |
| 1 | C |
| 2 | B |
| 3 | D |
| 4 | C |
| 5 | B |
| 6 | A |
| 7 | C |
| 8 | D |

|  |  |  |
| --- | --- | --- |
| Longer Answer | | |
| 1 | a |  |
|  | b | (4, 4) |
|  | c | (2, -2) |
| 2. | a |  |
|  | b |  |
|  | c |  |
| 3. | a |  |
|  | b | A pen costs $8 and a book costs $16. |