Test - Simultaneous equations

Year: Year 10 · Duration: 45 minutes · /20

Name:	Date:	**Mark: /20**

Question	1	2	3	4	5	Total
marks	4	4	4	4	4	**20**
Mark						

Show your working.

Question 1 (4 marks)

Question 1 – Elimination

Solve the simultaneous equations $3x + 2y = 12$ and $5x - 3y = 1$. (4 marks)

Question 2 (4 marks)

Question 2 – Forming simultaneous equations

2 adult tickets and 3 child tickets cost £34. 3 adult tickets and 1 child ticket cost £30. Work out the cost of one adult ticket and one child ticket. (4 marks)

Question 3 (4 marks)

Question 3 – Substitution

Solve $y = 3x - 4$ and $2x + y = 11$. (3 marks) Then show that $(3, 5)$ is on the line $y = 3x - 4$ but not on $x + y = 7$. (1 mark)

Question 4 (4 marks)

Question 4 – Graphs and problem

The lines $y = 2x + 1$ and $x + y = 10$ are drawn on a grid.

a. Find the coordinates of the point where the lines cross. (2 marks)
b. A taxi firm charges £2 plus £1.50 per mile. Another charges £5 plus £1 per mile. Find the distance where the charges are the same. (2 marks)

Question 5 (4 marks)

Question 5 – Higher: linear and quadratic

Higher tier. Solve $y = x + 2$ and $x^2 + y^2 = 34$. (4 marks)