Write your name, centre number and candidate number in the boxes below.

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

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Simultaneous equations

Time allowed: 45 minutes

Subject code **0580**

Mathematics

Questions from Paper 1, Paper 2, Paper 3 and Paper 4

You must have: a ruler marked in centimetres and millimetres, a protractor, compasses, a pen, an HB pencil and an eraser.
You may use a calculator.

Total marks

/ 38

Instructions

- Answer every question in the space provided on this paper.
- Write in black or dark blue ink. Pencil may be used for diagrams and graphs.
- Fill in your name, centre number and candidate number above.
- Show your working: a correct method can earn marks even if the answer is wrong.
- Unless a question says otherwise, give answers that are not exact to 3 significant figures, and angles in degrees to 1 decimal place.

Information

- This paper has 10 questions worth 38 marks in total.
- The marks for each question or part are shown in brackets, for example [3].

Advice

- Read every question through once before you write anything.
- Use the marks in brackets to judge how long to spend on each part.
- If you finish early, go back and check your working.

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Print at 100% (Actual size) so diagrams keep their real measurements.

1 Solve the simultaneous equations.

You must show all your working.

$$3x + 5y = 5$$
$$2x - 5y = 45$$

$x =$ .....

$y =$ .....

[2]

Simultaneous equations Click for more variations

2 Solve the simultaneous equations.

$$x - 3y = 7$$
$$2x - 3y = 11$$

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$x =$ .....

$y =$ ..... [2]

Simultaneous equations Click for more variations

3 Solve the simultaneous equations.
You must show all your working.

$$2x + 3y = 13$$
$$x + 2y = 9$$

$x =$ .....

$y =$ ..... [3]

Simultaneous equations Click for more variations

4 Find the values of x when $6x + y = 10$ and $y = x^2 - 3x + 10$.

$x =$ ..... or $x =$ ..... [3]

Simultaneous equations Click for more variations

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5 Solve the simultaneous equations.

$$4t - 3w = 11$$
$$6t + 2w = -3$$

$t =$ .....

$w =$ ..... [4]

Simultaneous equations Click for more variations

6 The line $y = x + 1$ intersects the curve $y = x^2 + x - 3$ at two points.

Find the coordinates of the two points.

(..... , ...)

(..... , ...) [4]

Simultaneous equations Click for more variations

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7 Solve the simultaneous equations.
You must show all your working.

$$\frac{3x}{2} + 5y = 5$$
$$4x - 3y = 46$$

$x =$ .....

$y =$ ..... [4]

Simultaneous equations Click for more variations

8 Jim buys 15 apples and 10 pears for \$42.50 .
Li buys 4 apples and 5 pears for \$16.

Write down a pair of simultaneous equations and solve them to find the cost of one apple and the cost of one pear.

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Apple \$ .....

Pear \$ .....
[5]

Simultaneous equations Click for more variations

9 Solve the simultaneous equations.
You must show all your working.

$$4y + 3x = 13$$
$$y = x^2 - 18$$

$x =$ ..... $y =$ .....

or $x =$ ..... $y =$ ..... [5]

Simultaneous equations Click for more variations

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10 A shop sells pens and notebooks.
The cost of a pen is p cents and the cost of a notebook is n cents.

(a) On Monday, the shop sells 5 pens and 4 notebooks for 450 cents.

Complete the equation.

$5p + 4n =$ ..... [1]

(b) On Tuesday, the shop sells 10 pens and 3 notebooks for 525 cents.

Write this information as an equation.

..... = ... [2]

(c) Solve your two equations to find the cost of a pen and the cost of a notebook.
You must show all your working.

Cost of a pen = ... cents

Cost of a notebook = ... cents [3]

(a) Simultaneous equations (b) Simultaneous equations (c) Simultaneous equations Click for more variations

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