

1MA1 Higher themed papers: Simultaneous equations

Write your name here			
Surname	Other names		
Centre Number		Candidate Number	
Pearson Edexcel Level 1/Level 2 GCSE (9–1)			
Mathematics			
Simultaneous equations			
			Paper Reference 1MA1
You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.			Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is **42**. There are **10** questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2017–November 2019 examinations.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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1 Solve the simultaneous equations

$$3x + y = -4$$

$$3x - 4y = 6$$

$x = \dots\dots\dots$

$y = \dots\dots\dots$

(Total for Question 1 is 3 marks)

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2 Solve the simultaneous equations

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

$$2x - 4y = 2$$

$x =$

$y =$

(Total for Question 2 is 3 marks)

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3 Solve the simultaneous equations

$$\begin{aligned}5x + y &= 21 \\ x - 3y &= 9\end{aligned}$$

$x = \dots\dots\dots$

$y = \dots\dots\dots$

(Total for Question 3 is 3 marks)

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4 Solve the simultaneous equations

$$2x + 3y = 6$$

$$7x - 2y = 1$$

$x = \dots\dots\dots$

$y = \dots\dots\dots$

(Total for Question 4 is 4 marks)

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5 Solve the simultaneous equations

$$4x + 6y = 5$$

$$7x + 5y = -10.5$$

$x = \dots\dots\dots$

$y = \dots\dots\dots$

(Total for Question 5 is 4 marks)

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6 Solve algebraically the simultaneous equations

$$\begin{aligned}x^2 + y^2 &= 25 \\y - 3x &= 13\end{aligned}$$

.....
(Total for Question 6 is 5 marks)

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7 Solve algebraically the simultaneous equations

$$x^2 - 4y^2 = 9$$

$$3x + 4y = 7$$

(Total for Question 7 is 5 marks)

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8 Solve algebraically

$$x^2 + y^2 = 18$$

$$x - 2y = -3$$

.....
(Total for Question 8 is 5 marks)

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9 Solve algebraically the simultaneous equations

$$\begin{aligned}2x^2 - y^2 &= 17 \\ x + 2y &= 1\end{aligned}$$

(Total for Question 9 is 5 marks)

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10 Solve algebraically the simultaneous equations

$$y = 2x^2 - 3x - 10$$

$$2x - y = -2$$

.....
(Total for Question 10 is 5 marks)

TOTAL MARKS FOR PAPER: 42