

Simultaneous equations

Difficulty: Easy

Question Paper 1

Level	AS & A Level
Subject	Maths - Pure
Exam Board	Edexcel
Topic	Equations and inequalities
Sub-Topic	Simultaneous equations
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: 40 minutes

Score: /33

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>76%	61%	52%	42%	33%	23%	<23%

Question 1

Solve the simultaneous equations

$$\begin{aligned}x + y &= 2 \\x^2 + 2y &= 12.\end{aligned}\tag{6}$$

(Total 6 marks)

Question 2

Solve the simultaneous equations

$$\begin{aligned}x - 2y &= 1, \\x^2 + y^2 &= 29.\end{aligned}\tag{6}$$

(Total 6 marks)

Question 3

Solve the simultaneous equations

$$\begin{aligned}y &= x - 2, \\y^2 + x^2 &= 10.\end{aligned}\tag{7}$$

(Total 7 marks)

Question 4

(a) By eliminating y from the equations

$$y = x - 4,$$

$$2x^2 - xy = 8,$$

show that

$$x^2 + 4x - 8 = 0. \quad (2)$$

(b) Hence, or otherwise, solve the simultaneous equations

$$y = x - 4,$$

$$2x^2 - xy = 8,$$

giving your answers in the form $a \pm b\sqrt{3}$, where a and b are integers. (5)

(Total 7 marks)

Question 5

Solve the simultaneous equations

$$y - 3x + 2 = 0$$

$$y^2 - x - 6x^2 = 0 \quad (7)$$

(Total 7 marks)