



National 5 Mathematics

Simultaneous Equations - Questions

Marks are indicated in brackets after each question number

2014 Paper 2 Question 3, (2)

Two groups of people go to a theatre.

Bill buys tickets for 5 adults and 3 children.

The total cost of his tickets is £158.25.

(a) Write down an equation to illustrate this information.

(b) Ben buys tickets for 3 adults and 2 children.

The total cost of his tickets is £98.

Write down an equation to illustrate this information.

(c) Calculate the cost of a ticket for an adult and the cost of a ticket for a child.

2015 Paper 1 Question 11, (3)

Solve algebraically the system of equations

$$3x + 2y = 17$$

$$2x + 5y = 4.$$



2016 Paper 1 Question 4, (1) (1) (4)

Charlie is making costumes for a school show.

One day he made 2 cloaks and 3 dresses.

The total amount of material he used was 9.6 square metres.

(a) Write down an equation to illustrate this information.

(b) The following day Charlie made 3 cloaks and 4 dresses.

The total amount of material he used was 13.3 square metres.

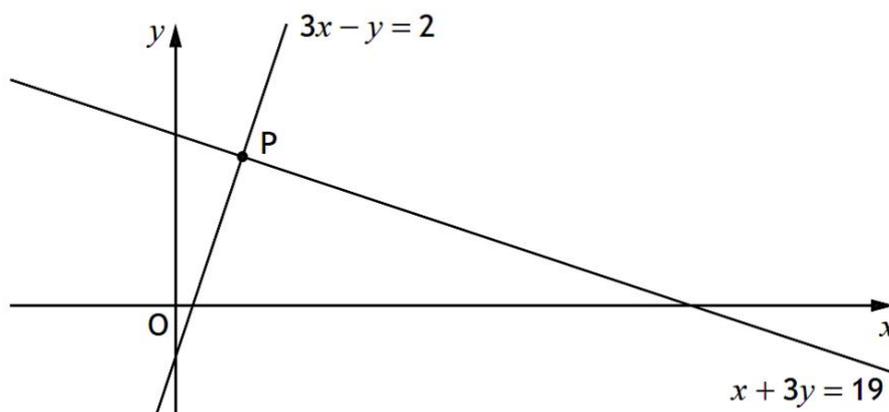
Write down an equation to illustrate this information.

(c) Calculate the amount of material required to make one cloak and the amount of material required to make one dress.

2017 Paper 1 Question 13, (3)

The graph below shows two straight lines with the equations:

- $3x - y = 2$
- $x + 3y = 19$



The lines intersect at the point P.

Find, **algebraically**, the coordinates of P.



2018 Paper 1 Question 3, (3)

Solve, algebraically, the system of equations

$$4x + 5y = -3$$

$$6x - 2y = 5.$$

2019 Paper 1 Question 8, (1) (1) (4)

John bought 7 bags of cement and 3 bags of gravel.

The total weight of these bags was 215 kilograms.

(a) Write down an equation to illustrate this information.

Shona bought 5 bags of cement and 4 bags of gravel.

The total weight of her bags was 200 kilograms.

(b) Write down an equation to illustrate this information.

(c) Calculate the weight of one bag of cement and the weight of one bag of gravel.



2022 Paper 2 Question 4, (1) (1) (4)

Moira buys 4 mangoes and 3 apples at a fruit shop.

The total cost is £4.25.

(a) Write down an equation to illustrate this information.

Sami buys 5 mangoes and 2 apples in the same fruit shop.

The total cost is £4.70.

(b) Write down an equation to illustrate this information.

(c) Calculate, algebraically, the cost of a mango and the cost of an apple.

2023 Paper 1 Question 3, (3)

Solve, algebraically, the system of equations

$$2x + 3y = 8$$

$$5x + 2y = -2.$$

2024 Paper 1 Question 7, (3)

Solve, algebraically, the system of equations

$$2p - 7r = 11$$

$$3p + 2r = 4$$



2025 Paper 2 Question 10, (1) (1) (4)

On Bob's lorry there are 7 stacks of paving slabs and 3 stacks of edging blocks.

The total weight of these stacks is 2400 kilograms.

Let p be the weight of a stack of paving slabs and e be the weight of a stack of edging blocks.

(a) Write down an equation in p and e to illustrate this information.

Imran has 3 stacks of paving slabs and 4 stacks of edging blocks on his lorry.

The total weight of these stacks is 1300 kilograms.

(b) Write down an equation in p and e to illustrate this information.

Beth has 6 stacks of paving slabs and 5 stacks of edging blocks on her lorry.

(c) Calculate the **total weight** of the stacks of paving slabs and edging blocks on Beth's lorry.