

Simultaneous Equations

N5 Maths Exam Questions

Source: 2019 P1 Q8 N5 Maths

(1)

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.

Answers: (a) $7c + 3g = 215$

(b) $5c + 4g = 200$

(c) *Cement = 20 kg, Gravel = 25 kg*

Source: 2018 P1 Q3 N5 Maths

(2)

Solve, algebraically, the system of equations

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

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

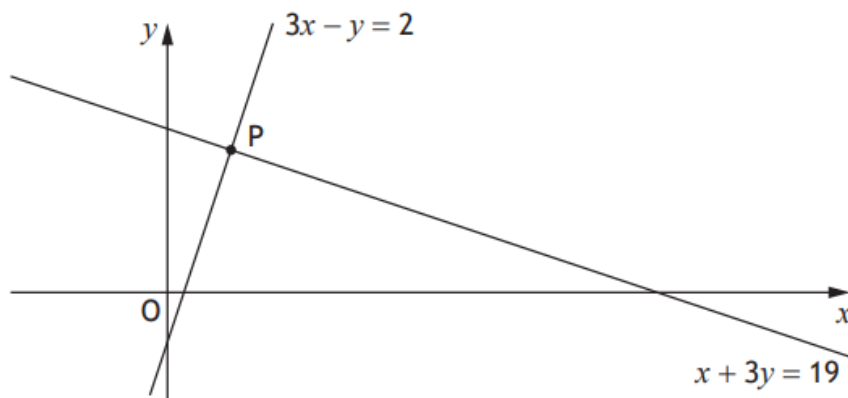
Answers: $x = 0.5$, $y = -1$

Source: 2017 P1 Q13 N5 Maths

(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.

Answer: $P(2.5, 5.5)$

Source: 2016 P1 Q4 N5 Maths

(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.

Answers: (a) $2c + 3d = 9.6$

(b) $3c + 4d = 13.3$

(c) Cloak $1.5m^2$, Dress $2.2m^2$

Source: 2015 P1 Q11 N5 Maths

(5) Solve algebraically the system of equations

$$3x + 2y = 17$$

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

Answers: $x = 7, y = -2$

Source: Specimen P1 Q10 N5 Maths

(6) Brian and Bob visit a ski resort. Brian buys 3 full passes and 4 restricted passes. The total cost of his passes is £185.

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

(b) Bob buys 2 full passes and 3 restricted passes.

The total cost of his passes is £130.

Write down an equation to illustrate this information.

(c) Find the cost of a restricted pass and the cost of a full pass.

Answer: (a) $3f + 4r = 185$

(b) $2f + 3r = 130$

(c) *Restricted Pass = £20 Full Pass = £35*