

National 5 Simultaneous Equations Homework

Name:

Grade:

Seats on flights from London to Edinburgh are sold at two prices, £30 and £50.

On one flight a total of 130 seats was sold.

Let x be the number of seats sold at £30 and y be the number of seats sold at £50.

- (a) Write down an equation in x and y which satisfies the above condition. 1
The sale of the seats on this flight totalled £6000.
- (b) Write down a second equation in x and y which satisfies this condition. 1
- (c) How many seats were sold at each price? 4

A sports centre charges different entrance fees for adults and children. Let £ x be the adult's entrance fee and £ y be the child's entrance fee.

One evening 14 adults and 4 children visited the sports centre. The total collected in entrance fees was £55.00.

The following evening 13 adults and 6 children visited the sports centre. The total collected in entrance fees was £54.50.

Calculate the entrance fee for an adult and the entrance fee for a child.

Suzie has a new mobile phone. She is charged x pence per minute for calls and y pence for each text she sends. During the first month her calls last a total of 280 minutes and she sends 70 texts. Her bill is £52.50.

(a) Write down an equation in x and y which satisfies the above condition. 1

The next month she reduces her bill. She restricts her calls to 210 minutes and sends 40 texts. Her bill is £38.00.

(b) Write down a second equation in x and y which satisfies this condition. 1

(c) Calculate the price per minute for a call and the price for each text sent. 4

Solve algebraically the system of equations

$$4x + 2y = 13$$

$$5x + 3y = 17.$$

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