

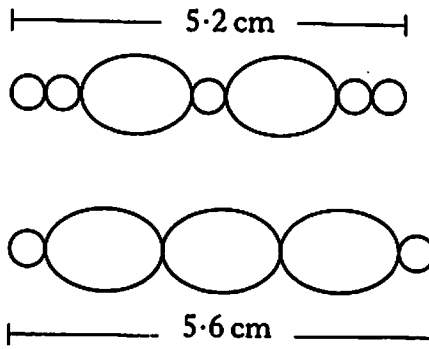
Simultaneous equations Int 2 PP 2001 -2008

A

2005 P2 calculator

4. A jeweller uses two different arrangements of beads and pearls.

Marks



The first arrangement consists of 2 beads and 5 pearls and has an overall length of 5.2 centimetres.

The second arrangement consists of 3 beads and 2 pearls and has an overall length of 5.6 centimetres.

Find the length of **one** bead and the length of **one** pearl.

6

B

2006 P2 calculator

2. Solve algebraically the system of equations

$$4x + 2y = 13$$

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

3

C

2007 P1 non calculator

4. Find the point of intersection of the straight lines with equations $x + 2y = -5$ and $3x - y = 13$.

4

D

2008 P2 calculator

4. 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

Simultaneous equations

Int 2 PP 2001 -2008

2001 P1 non calculator

- E 3. Find the point of intersection of the straight lines with equations $2x + y = 5$ and $x - 3y = 6$.

4

2002 P2 calculator

- F 2. Solve algebraically the system of equations

$$3x - 2y = 11$$

$$2x + 5y = 1.$$

3

2003 P2 calculator

- G 3. 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

2004 P2 calculator

- H 5. A sports centre charges different entrance fees for adults and children.

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

Let $\pounds x$ be the adult's entrance fee and $\pounds y$ be the child's entrance fee.

Write down an equation in x and y which represents the above condition.

1

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

Write down a second equation in x and y which represents the above condition.

1

- (c) Calculate the entrance fee for an adult and the entrance fee for a child.

4.