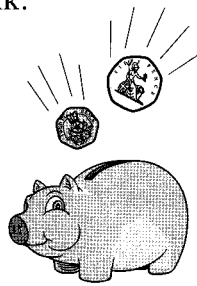


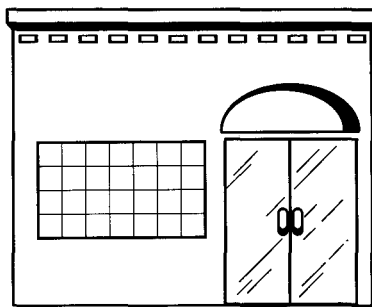
Simultaneous Equations

2008 P2	<p>4. Aaron saves 50 pence and 20 pence coins in his piggy bank.</p> <p>Let x be the number of 50 pence coins in his bank.</p> <p>Let y be the number of 20 pence coins in his bank.</p> <div style="text-align: right; margin-right: 50px;">  </div> <p>(a) There are 60 coins in his bank. Write down an equation in x and y to illustrate this information.</p> <p>(b) The total value of the coins is £17.40. Write down another equation in x and y to illustrate this information.</p> <p>(c) Hence find algebraically the number of 50 pence coins Aaron has in his piggy bank.</p>	1	1	3
Ans	<p>(a) $x + y = 60$ (b) $50x + 20y = 1740$ (c) 18 fifty pence coins.</p>			
2007 P1	<p>11. (a) A cinema has 300 seats which are either standard or deluxe. Let x be the number of standard seats and y be the number of deluxe seats. Write down an algebraic expression to illustrate this information.</p> <p>(b) A standard seat costs £4 and a deluxe seat costs £6. When all the seats are sold the ticket sales are £1380. Write down an algebraic expression to illustrate this information.</p> <p>(c) How many standard seats and how many deluxe seats are in the cinema?</p>	1	2	3
Ans	<p>(a) $x + y = 300$ (b) $4x + 6y = 1380$ (c) 210 standard and 90 deluxe</p>			

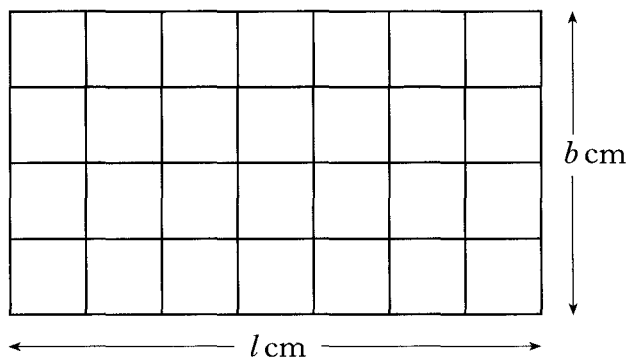
2006 PI	<p>9. Euan plays in a snooker tournament which consists of 20 games.</p> <p>He wins x games and loses y games.</p> <p>(a) Write down an equation in x and y to illustrate this information.</p> <p>(b) He is paid £5 for each game he wins and £2 for each game he loses.</p> <p>He is paid a total of £79.</p> <p>Write down another equation in x and y to illustrate this information.</p> <p>(c) How many games did Euan win?</p>	1	2	
Ans	(a) $x + y = 20$ (b) $5x + 2y = 79$ (c) 13			
2003 PI	<p>7. Andrew and Doreen each book in at the Sleepwell Lodge.</p> <p>(a) Andrew stays for 3 nights and has breakfast on 2 mornings.</p> <p>His bill is £145.</p> <p>Write down an algebraic equation to illustrate this.</p> <p>(b) Doreen stays for 5 nights and has breakfast on 3 mornings.</p> <p>Her bill is £240.</p> <p>Write down an algebraic equation to illustrate this.</p> <p>(c) Find the cost of one breakfast.</p>	1	1	3
Ans	<p>(a) $3n + 2b = 145$</p> <p>(b) $5n + 3b = 240$</p> <p>(c) £5</p>			

2002 P1	<p>13. (a) 4 peaches and 3 grapefruit cost £1.30. Write down an algebraic equation to illustrate this.</p> <p>(b) 2 peaches and 4 grapefruit cost £1.20. Write down an algebraic equation to illustrate this.</p> <p>(c) Find the cost of 3 peaches and 2 grapefruit.</p>	1	1	4
Ans	<p>(a) $4p + 3g = 130$</p> <p>(b) $2p + 4g = 120$ or equivalent</p> <p>(c) 92 pence or £0.92</p>			

5.



A rectangular window has length, l centimetres and breadth, b centimetres.



A security grid is made to fit this window. The grid has 5 horizontal wires and 8 vertical wires.

(a) The perimeter of the window is 260 centimetres.

Use this information to write down an equation involving l and b .

(b) In total, 770 centimetres of wire are used.

Write down another equation involving l and b .

(c) Find the length and breadth of the window.

1

2

3

Ans

(a) $l + b = 130$

(b) $5l + 8b = 770$

(c) $l = 90, \quad b = 40$